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1. Flippin, H. F.: Philadelphia Med. *48*:733 (Jan. 30) 1954.
2. Glatt, M., and Ross, S.: Antibiotics & Chemotherapy *4*:395 (Apr.) 1954.

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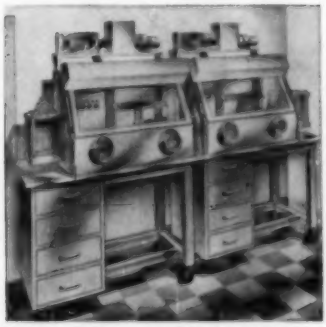

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1. Cass, L. J. and Frederik, W. S.: Malt Soup Extract as a Bowel Content Modifier in Geriatric Constipation, Journal-Lancet, 73:414 (Oct.) 1953.

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Conference of International Union Against Tuberculosis—September 26-October 2; Madrid, Spain.

Congress of International Society of Medical Hydrology—September 26; Vichy and Paris, France.

Congress of International Society of Urologists—April, 1955; Athens, Greece.

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Inter-American Congress of Radiology—April 24-29, 1955; Shoreham Hotel, Washington, D. C.

Inter-American Session, American College of Surgeons—January 11-14, 1955; Lima, Peru.

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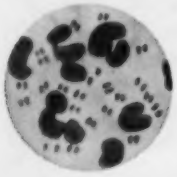

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1. Spink, W.W.: J.A.M.A. *152*:585 (June 13) 1953
2. Bush, W.L.: Southern M. J. *45*:870 (Sept.) 1952
3. Berkowitz, D.: Antibiot. &Chem. *3*:618(June)1953

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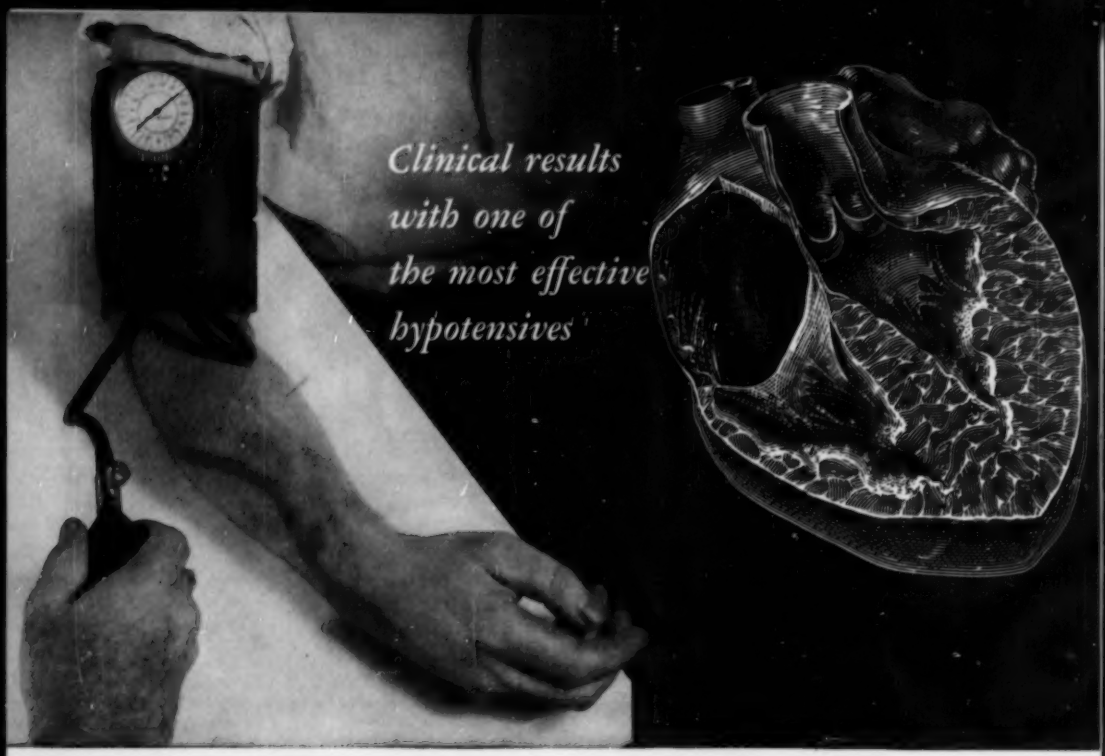

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Bibliography:

1. Moyer, J. H.; Miller, S. I., and Ford, R. C.: J.A.M.A. *152*:1121 (July 18) 1953.
2. Moyer, J. H.; Snyder, H. B.; Johnson, I.; Mills, L. C., and Miller, S. I.: Am. J. M. Sc. *225*:379 (April) 1953.
3. Kuhn, P. H.: Angiology *4*:195 (June) 1953.

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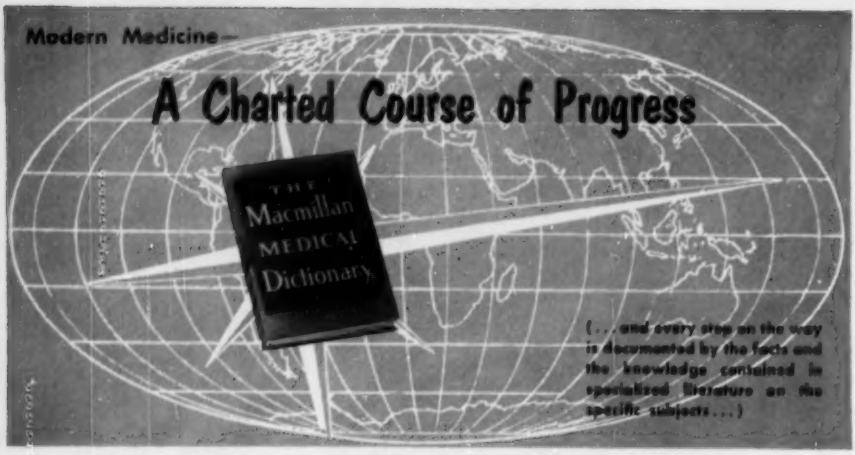
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The Yale Plan of Medical Education

After Thirty Years

VERNON W. LIPPARD

A PLAN OF STUDY which differs in many respects from that followed in other American medical schools has been in operation at Yale since the mid-twenties. At the time of its inception it aroused a good deal of interest and now, when several new schools are being established and others are revising their teaching programs, interest in it has been renewed. This time, therefore, appears to be an appropriate occasion for review of the plan and a description of its evolution after the first 30 years.

To understand its origin one must consider the climate into which the program was introduced. During the first quarter of the 20th century, medical education in the United States was undergoing a dramatic upheaval. Many hospital schools, operated essentially as vocational schools, closed their doors and others became more directly responsible to their parent universities. The course of study was increased to four years and, of greater significance, preliminary instruction in the natural sciences was inserted without any serious effort to coordinate it with the medical program.

The result of these simultaneous changes was that many medical schools were suddenly transformed from undergraduate vocational colleges to graduate schools, but the methods of instruction remained at the undergraduate level. In some schools, grammar school methods predominated. Daily recitations were based on textbook assignments; lecture notes were memorized and regurgitated during weekly examinations; laboratory experiments were performed from manuals, with the principal goal a neat report rather than an understanding of the physiological mechanism they were expected to demonstrate; special interests and initiative to explore original ideas were discouraged by rigid schedules which permitted no time for independent thought.

The Yale University School of Medicine, during this period, was entering the second century of its existence and an era of extensive reorganization. More adequate financial resources had become available, a full-time faculty was appointed in the clinical departments and new buildings were under construction. The atmosphere was such that the faculty was more than usually receptive to adjustments in organization and attitudes and the students were less than usually resistent to new

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methods of study. It was under these circumstances that the faculty had the courage to introduce a program in which the medical student was treated as a graduate student and given more than customary responsibility for his own development.

An adequate understanding of the philosophy and objectives of the authors of this program can be obtained by reading the classic review written by Dr. Samuel C. Harvey in 1941, after it had been in operation for approximately 15 years.[1] Dr. Harvey emphasized that the effectiveness of an educational program in medicine is dependent upon the extent to which these desirable qualities of a physician are strengthened: integrity, intelligence, capacity for work, common sense and a faculty of ascertaining the truth.

In discussing integrity, he observes that the medical student is an adult, particularly in respect to underlying qualities of behavior and conduct, and that any changes which may occur, for better or for worse, will result from the example set by members of the medical profession within and without the faculty. With this consideration in view, a cordial relationship between students and faculty has been encouraged and experience has shown that it can be fostered by work in small groups rather than by more formal methods of instruction.

Little can be done to alter intelligence. It has been the intention of the faculty to admit only students of adequate intelligence and to aid them in using their native talents to advantage by indoctrination in good learning habits.

Dr. Harvey observes that "lack of initiative and the absence of a sufficiently demanding intellectual curiosity is responsible for more poor practice of medicine than any other one thing." He is severely critical of enforced performance through enforced attendance, controlled systematic coverage of material, frequent checking by examinations and absurd mathematical evaluation of achievement, and he concludes that "work so done by command and rote, and so checked, destroys initiative and makes by these associations intellectual work disagreeable." Capacity and enthusiasm for intellectual work perhaps have been the qualities most stimulated by this program because, in comparison with the other qualities under consideration, they are more susceptible to development in this age group.

The fourth quality—common sense—like intelligence cannot be influenced to any considerable degree by instruction, although "when derived from a properly proportioned integration of one's knowledge and experience, it is of greatest importance." It seems redundant to add that the student who is constantly under pressure in the lecture hall and recitation room to memorize facts in anticipation of the next examination has little time or inclination to develop this essential quality.

The faculty for ascertaining the truth is as essential in the clinic as it is in the laboratory and "the ideal physician is not one who has a content of knowledge of a certain vintage, but one who has that of the present moment critically evaluated." His problems are those which can be solved only by the scientific method and he should, during his training, have daily experience in using it. It is not difficult to understand why a faculty which accepted this concept has insisted over the years that every student carry out an original investigation—not primarily for the purpose

of adding to scientific knowledge, but rather to give him an experience which will make him a better physician.

No educational program worth its salt ever has or ever will be in final form. To be effective, it must be subjected to constant evaluation and improvement. Reappraisal is especially indicated at those intervals in the life of a school when retirements lead to appointment of new leaders who may view existing methods with skepticism or lack of understanding. If they accept an existing program, with enough modifications to give them some sense of parenthood, it will go forward. If they reject it, they are at least under obligation to produce a better one.

Our faculty, having experienced a change in most of its departmental chairmen during the past few years, recently took a fresh look at the "Yale plan" and after minor modifications designed to make it more effective, came to the conclusion that it offers the student an educational experience not to be obtained under the more orthodox systems of instruction.

The basic philosophy, as it is now understood, is summarized in the following quotation from the faculty committee's report:

"Fundamental to this program is the concept that the medical student is a mature individual, is strongly motivated to learn and requires guidance and stimulation rather than compulsion or competition for relative standing in his group. Equally basic is the concept that if the student is given unusual privileges, he must assume more than usual responsibility for his education."

It should be recalled that it was the aim of the founders of this plan to create an atmosphere favorable for learning rather than a unique curriculum. They would probably have challenged anyone's ability to define its methods precisely. Over the years, however, certain characteristics which distinguish the methods of instruction from those of most other medical schools have become apparent, and it is the purpose of this report to define these characteristics rather than to dilate further on the underlying philosophy of the program. They are (1) the required dissertation, (2) lack of fixed course requirements for qualified students, (3) emphasis on elective courses and (4) absence of required course examinations.

The Required Dissertation

Although research by students is encouraged at some other medical schools, at no other American school is the presentation of a dissertation, based on original investigation, one of the requirements for the M.D. degree. Each student, by the middle of his first clinical year at the latest, presents an original hypothesis and plan of attack to the faculty member under whom he chooses to work. From that point on, facilities and guidance in pursuit of the answer to his problem are provided in exactly the same manner as they would be for any other graduate student. He has a corner in a laboratory which he can call his own and he works there during free periods, weekends and often over one or two summer vacations. Often he establishes a close relationship with other members of the department, attends the departmental seminars and considers the laboratory the home base of his operations.

The quality of dissertation presented at the end of this experience varies widely. Many, perhaps 10 per cent over the years, would be acceptable to the same preclinical department if presented by its candidates for the Ph.D degree. At the other ex-

treme, some of the studies are quite superficial. In every instance, however, the student has explored the literature in a field of knowledge, has formulated a hypothesis, has worked out a method of approach, has carried out the necessary experiments, has reached a conclusion and has written an acceptable report.

It has been argued repeatedly that it is a waste of time for the prospective practitioner to engage in research and that his time as a medical student would be spent more advantageously seeing more patients. The contention of the Yale faculty is that as a result of this experience, a few students will have had kindled the spark of curiosity which will lead them to a career in academic medicine and many others will become better practitioners. The four-year period as a medical student is the time to develop attitudes and to gain basic knowledge. Experience in dealing with large numbers of patients will come later.

Lack of Fixed Course Requirements

Students who by virtue of previous experience can demonstrate competence in the field of knowledge covered by a course are encouraged to accept special assignments such as participation in instruction or research in the field, or are excused from attendance and given additional time for elective work.

This arrangement makes it possible for students who have obtained advanced degrees in the medical sciences to fit into the medical curriculum without going through the motions of repeating courses. Students are encouraged to study at other universities, to accept fellowships for advanced study and research without feeling that they must keep in lockstep with the other members of a class. There is nothing very mysterious about this arrangement. It merely means that students are treated as individuals.

A serious effort is made to discover and develop the exceptional student. Since the major handicap for many who may wish to spend a longer time than usual in medical school is a financial one, some of the general research funds are used to provide fellowships for a year of concentrated research activity, preferably between the preclinical and clinical years. Fellowships are also provided to cover living expenses of those who have demonstrated an interest and capacity for investigative work but could otherwise not afford to remain in residence during the summer vacations.

Emphasis on Elective Courses

It has been a basic policy in this program that the student should not be under such pressure to attend required exercises from eight to five daily for four years that he has no time for pursuit of special interests. For that reason, there are fewer than the usual scheduled hours in the curriculum. The student may choose to attend several electives or none, and he receives no credit. The man who learns slowly may feel that his time is spent most effectively by additional study in the basic courses. The brilliant student does not feel confined to the pace of the slower learner.

Elective courses offered follow four patterns. Many are in the form of *seminars,* attended by faculty members and other graduate students. The groups are small and active participation is encouraged. *The general conference type* such as the tumor clinic, the neurological study unit and

the clinical-pathological conference is organized on an interdepartmental basis and provides one of the most effective means of integration. *Laboratory courses* such as one in topographic and cross-section anatomy provide an opportunity for advanced laboratory experience. In the *clinical electives* the student who develops a strong interest in children's neurology or hypertension or metabolism, for example, may be assigned to the appropriate clinic for a period of several weeks.

Without doubt, some of these elective courses are confined to highly specialized areas, and it may be said that the undergraduate medical student is not ready for such an experience and should confine his interest to basic material. It cannot be denied, however, that intimate contact with a faculty member or group whose investigative interests have carried them into a limited field is an exciting experience for a student, and we believe that he should be excited as well as taught.

One of the problems involved in presenting an effective elective program is that of scheduling, and our faculty is now engaged in a rearrangement of the schedule which should lead to better results. Conflicts between popular electives and basic work have been irritating to the faculty and have led students to neglect responsibilities. To make an elective program most effective, there should be open hours common to the schedules for the four years as well as free periods in each year for concentrated attention to research and study outside of the basic courses. Another situation to be guarded against is that of inclusion of essentially basic material in elective courses as a means of capturing more of the student's time. This leads to development of "required electives" which the student feels compelled to attend and to destruction of the entire elective program.

Absence of Required Examinations

With the exception of lectures in the preclinical courses, designed to orient the student and discuss topics not covered in textbooks and daily assembled clinics in the clinical years, instruction is carried out in small groups in the laboratories, conference rooms, wards and outpatient clinics. Under this method of instruction, evaluation of achievement can be dependent primarily on the intimate acquaintance of faculty members with each student and their appraisal of his progress. Frequent examinations are not only undesirable but are unnecessary.

During the preclinical years, examinations are offered on a voluntary basis two or three times during each course to aid the student in review and self-evaluation. The papers are corrected but not graded and are discussed at group conferences.

A tutorial plan has been introduced during the current year in the departments of pediatrics and medicine. During the period of his ward clerkship in these departments each student is assigned to a member of the faculty with whom he confers at weekly intervals. These conferences, which are very informal, may take the form of discussion of a patient or clinical problem or theory, or may involve a walk around a ward. The student is guided in his reading and aided in understanding subjects he has failed to master.

At the end of each course, a narrative report, representing the composite opinion of the department, is submitted on each student. These reports

are reviewed periodically by progress committees appointed for each year. The purpose of these committees is not to formulate grades or class standings but to help the student who is found to be falling behind in several courses.

The only formal examinations are those of the National Board of Medical Examiners. The student may present himself for Part I, covering preclinical subjects, after not less than two or more than three years, and for Part II, covering clinical medicine, within the same interval. Successful completion of the national board examinations is the threshold requirement for advancement from the preclinical to the clinical years and for graduation. Final decision as to the student's progress and the award of honors and prizes, however, is made by the board of permanent officers, comprised of all full professors, on recommendation of the four class progress committees.

This report is not written with any expectation that the Yale plan will be adopted in toto by other schools but rather with the hope that at this time when medical education is again in a state of ferment, others may benefit from our experience. In many respects, the plan may not have worked out as originally intended. This is merely a description of the state of evolution of the program after 30 years, including some revisions made during the past year.

Let me repeat that there is nothing unique or ingenious about it. The material covered is in most respects similar to that in other American medical schools and the methods of instruction are those which have been considered satisfactory in fields of graduate study other than medicine for centuries. The essential feature is that the faculty is concerned with guiding and stimulating a group of intelligent young men and women rather than in drilling and examining them.

One of the chronic problems has been the adjustment of entering students to a less restrictive atmosphere than they have encountered over the previous 16 years. Accustomed to definite assignments, didactic lectures, copious notes and frequent examinations, a few members of each class have been emotionally disturbed and insecure. This condition seldom continues beyond the middle of the first year and, with few exceptions, those who have completed the program are its most ardent supporters.

Probably a few uninspired students abuse the freedom inherent in this plan and would emerge from a more compulsive atmosphere with a larger stock of factual knowledge. It is, admittedly, not designed for the mediocre man, but it is surprising how few of those selected for admission turn out to be really mediocre when challenged by the opportunity to assume responsibility for their own education. The temptation to "put it over on the faculty" loses its flavor when it is discovered that nothing is to be gained.

If one thing has been learned from this experiment over 30 years, it is that teachers and their attitudes are more important than curriculum structure and methods. There is much discussion about "integration," "comprehensive medicine" and "vertical" versus "horizontal" curricula. Unless the student is given an opportunity to think for himself, is given time for pursuit of special interests and, most important, is freed from frequent course examinations and constant attendance at didactic lectures and recitations, efforts at integration —vertical, horizontal or diagonal—

are wasted. In this regard, the comments of a British colleague who visited several American schools during the past year will be of interest:

"There is a tendency everywhere, and perhaps particularly in America, to equate what is new with what is good, and to confuse the means with the end, especially where the means are striking and dramatic. The present trend is to concentrate on the teaching and to neglect the teacher, on the assumption that if only the right METHODS can be found all will be well. This seems to me to put the cart squarely in front of the horse. Given good teachers and good students, it does not matter much what passes between them; the product will also be good. Teaching is a thing done by individuals to individuals, and method must always be secondary. 'Sir,' said our old friend Dr. Johnson many years ago, 'it is no matter what you teach them first, any more than what leg you shall put into your breeches first'."[2]

The crucial test of any educational program is the quality of its products —impossible to determine immediately and not apparent in any degree of accuracy even after years. Absence of the pressure of frequent examinations has not seemed to influence unfavorably the amount of factual knowledge acquired because Yale's record in the national board examinations, the only available method of comparing students who have attended various schools, has been excellent. Reports indicate that our graduates are stimulating members of resident staffs, have a breadth of interest and social responsibility which makes them responsible general practitioners and enter specialty training or research with at least the usual amount of maturity. An unusually large proportion of the graduates over the life of this program have become teachers and investigators.* Whether this is a function of the methods of instruction or the type of student attracted, we do not know.

Yale's fundamental purpose is "the training of men by the cultivation of their individual powers of reason and conscience for the broadest possible responsibilities in our society."[3] We believe this program has been successful to a considerable extent in the attainment of that goal.

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An Experiment

Correlated Teaching of Pathology With Other Disciplines To Sophomore Medical Students

ROBERT E. STOWELL

AN EXPERIMENT IN medical education was started at the University of Kansas Medical School in 1952, when the departments most concerned with the second-year teaching program were undergoing varying degrees of reorganization of their staffs and occupying new teaching facilities. After more than a year of discussion and planning by many staff members of the departments concerned, a correlated teaching program was begun in September 1952. Although this experiment is in its early phases and will be changed from time to time as desired by the staff, its relatively favorable results may warrant a description of the program because of the interest in experiments in medical education.

A survey of all other medical schools in the United States in 1951, made preparatory to formulating this program, indicated that many schools were considering introducing changes in their curricula, and that some individual staff members were completely satisfied with their present programs. The program as carried on during the first two years of this experiment will be described and changes contemplated during the third year will be mentioned in the subsequent discussion.

General Objectives

Consideration was given to the extent to which a student should be taught related material without regard to the discipline involved, as compared with the more usual approach of having each discipline presented without regard to the teaching by other departments and sometimes perhaps without sufficient regard for the student. The majority of those concerned felt that it was desirable to attempt to follow a moderate course and to maintain a substantial degree of departmental integrity and freedom of manner of presentation of subject material, but that to a reasonable extent departments might rearrange the time they presented a

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subject to correspond with its discussion by other departments concerned. Admittedly the prime integrator in the learning process is the student's mind, but it should be easier for him to correlate subject matter if material related to the same problem is presented at more nearly the same time during the year. Some repetition also is a desirable teaching mechanism, but superfluous duplication should be avoided.

The diseases of the human body should not be fragmented by the various disciplines in their desire to teach students the concepts of their specialty, nor should departments attempt to teach all students as though they were going to become specialists in their field. The prime objective of the second-year curriculum should be to provide a suitable background in the fundamentals of human disease for the student's future clinical training. The more common diseases should be used as examples for the concepts to be taught, in preference to emphasizing rare entities which the student will never again encounter. However, rare diseases should not be completely ignored because of their incidence if they illustrate an important fundamental disease mechanism not otherwise easily conveyed.

Some curriculum time should not be filled with required courses but left available for independent study, elective courses, research or recreation. In the first two years of this program 30 per cent of the student's time exclusive of noon hour for five and one-half days of 8 A.M. to 5 P.M. was unscheduled time. Because of the clinicians' desire to introduce more clinical teaching into the second year, the student's free time is now being reduced to about 18 per cent in the third year of this program. Elective courses have been offered in the sophomore year by several departments, including subjects such as biology of neoplasms, tissue ultrastructure, radioisotopes and research.

The student's interest and motivation in studying basic science subjects should be enhanced by pointing out something of the relationship of the material to clinical medicine. This has been accomplished by having some clinicians participate in the teaching of basic science subjects, occasionally by showing patients to students in a basic science course such as pathology to illustrate a disease and by integrated seminars held for two hours each week. These seminars have had the following purposes, and experience indicates that our success in achieving these objectives and their acceptance by students and faculty decreases according to the order listed:

(1) To stimulate student interest and motivation by showing the clinical application of basic sciences.

(2) To summarize the diverse views of different departments on one subject.

(3) To cover more adequately a subject which no single department might emphasize in its teaching program.

(4) To introduce a subject on which various departments will subsequently teach, showing the relationship of the discipline involved.

Several examples of the type of correlation of course content achieved by different departments will be cited. Generally little correlation was attempted during the period in which departments were presenting their introductory material. However, in teaching diseases such as tuberculosis and syphilis, the material presented by microbiology, pathology, public health, pharmacology and integrated

seminars came within a few days of each other. The material on the physical diagnosis of the heart, pathology of the cardiovascular-renal system, clinical pathology of the urine, microbiologic aspects of urinary tract disease, pharmacologic action of digitalis and diuretics were presented in close temporal sequence. Numerous other examples are evident from copies of the schedule, which may be obtained by request from the author.

Since some students unfortunately tend to think of their curriculum in terms of the examinations they will receive, it was considered desirable to establish some cooperative examinations. Oral examinations have been given at the end of each quarter by a group with representation from three or more departments. Objective examinations of the multiple choice type have been participated in at the end of each quarter by all departments teaching in the second year. Students are given a total of eight to 10 case problems or situations which constitute the subject for departure for questions by all departments. It is felt that this tends to keep the questions of the departments oriented toward practical considerations of their subject. Each department may give examinations of any desired type during the quarter, but only one examination is given to the students in any one week. The curriculum provides several days for the students to review and integrate their teaching free from class assignments prior to the examinations at the end of each quarter.

In the first two years of the program, students were asked to write a 10-page paper on a basic science subject of interest or on their research. This was done to familiarize them with medical writing and the use of the library.

Teaching of Pathology

Each pathology period consisted of four hours which, about 75 per cent of the time, started with a 50-minute lecture-demonstration. This was followed by a laboratory session of one hour and 20 minutes to two hours, with the final hour to one hour and 40 minutes devoted to discussion groups. The lecture-demonstration might vary its approach to include the coverage of important material not adequately presented in the textbooks; the presentation of concepts and ideas to provoke the student's thought on the subject; and/or the orientation of the student in his reading and laboratory study. The laboratory session was devoted to the study of related gross and microscopic specimens on which protocol sheets were available.

The discussion groups, consisting of 14 students and an instructor, were of four different types. As listed in order of decreasing student interest, these groups were concerned with: (1) presentation by a student and discussion by the group of museum cases consisting of gross organs of interest preserved in Kaiserling III fluid, microscopic sections and complete autopsy protocol; (2) examination of fresh organs from an autopsy and discussion of pathologic processes and clinical and laboratory findings; (3) presentation by students and group discussion of animal experiments to show dynamic processes and their relation to human disease; and (4) presentation by students and group discussion in clinicopathologic conference of a case in which students had participated in autopsy performance.

An attempt is made to use examinations in pathology as learning exercises as well as to inform the staff of the effectiveness of their

teaching and the students of their grasp of the subject. Written examinations are discussed with the students immediately after they are taken. Various types of examinations and conferences give information about the student's performance in making and recalling observations, reasoning on the basis of his knowledge and presenting his ideas in different ways. Practical examinations in which the student worked with an unknown case were considered an especially valuable teaching exercise by the students.

Discussion

It is too early to prognosticate the ultimate fate, or whether there will be a five- or 10-year survival of this experiment. Some of the advantages and disadvantages from the viewpoint of students and staff which have become evident on the basis of two years' experience will be discussed. The results of informal discussions with students and anonymous written student questionnaires on the curriculum indicate their virtually unanimous approval and appreciation of the efforts of the staff in this correlated curriculum even though they are aware of some of its weaknesses. Enthusiasm of staff members has been transmitted to the students. There is some evidence that the students have acquired more useful knowledge. Clinical teachers claim that these two classes of students entering the junior year have been superior in their basic science knowledge to previous classes. The one class of students, who after completing this program have taken the cancer learning examination given in many medical schools, showed more improvement in their test results than the sophomores of other schools.

A majority of the staff concerned favor this correlated teaching program; some teachers favor it in principle, but feel that their discipline is not suited for such teaching; and a few of the staff are opposed to the program in varying degrees. In order to achieve good correlation a reasonable number of departments must be willing to vary the sequence of their teaching to conform to some common plan and to vary the amount of time they teach each week. Although the total teaching load is not necessarily more, the variation in teaching load is greater. Some time for curriculum planning is necessary and a committee has met on the average of two hours every other week during the past two years.

In designing this curriculum for the second year, some courses such as pathology, clinical pathology, microbiology and public health lend themselves much better to correlated teaching than, for example, psychiatry. Any attempts to develop a correlated program are dependent upon the desire to cooperate of the individuals concerned. Many teachers feel that the method and sequence of their teaching are so important that they prefer to teach independently rather than to make the sacrifices necessary for a correlated teaching program.

A resume of the changes being instituted in the third year of this experiment will give some idea of problems in such a curriculum. Pathology, clinical pathology, microbiology and public health will maintain approximately the same degree of correlation with each other. Pharmacology has moved its laboratory and demonstrations to a block of time twice weekly in the fall quarter because they felt their material did not correlate well with

other subjects and they were being forced to teach over too long a period of time in a sequence which interfered with the proper presentation of their discipline. Fewer lectures in pharmacology will now correlate in the second and third quarters with material of other departments.

The department of medicine objected to the amount of time available to teach physical diagnosis, to the breaks in their teaching schedule necessitated by the correlation which caused confusion among their staff, and to the sequence in which they were teaching physical diagnosis. In the coming year their teaching time has been more than doubled; they will begin instruction in the first week of school, continuing at the same time throughout the year, and there will be much less correlation with teaching by other departments.

New teaching in biostatistics and epidemiology has been added with good correlation with other courses. Additional teaching time has been made available for uncorrelated teaching in psychiatry and obstetrics. The increase in uncorrelated instruction at fixed recurring times each week in the schedule has complicated the working out of a close correlation by other departments. Potentially the biggest improvement in correlation has been the establishment of informal groups with representatives from the departments concerned with teaching in 11 subject areas. These groups will meet for a few hours to exchange information on their teaching and discuss and effect closer correlation of teaching in these areas. Neither this basic curriculum nor the modifications being made in it can be fully evaluated at this time.

Last year a more closely integrated curriculum was introduced into the first year of our medical school program and further changes in the third- and fourth-year curricula to be started during the next year will provide for a block-type of instruction by the major clinical departments with participation in teaching by the basic science departments such as pathology and microbiology. There is a general tendency for increased teaching by clinicians in the first two years of medical school and by basic science teachers in the last two years.

Conclusions

This experiment in correlated teaching in the sophomore year has some advantages and disadvantages. Departmental cooperation in teaching has been increased, while departmental integrity has been maintained. Curriculum changes can be approached gradually and may encompass few or many departments, depending upon the local situation and the desire to cooperate. It does not involve extra expenses or great diversion of staff time into administrative or committee action which more integrated programs require. There is some evidence that better teaching and student motivation have been obtained. A majority of the staff and virtually all students are enthusiastic about this experiment in medical education.

Letter to a Medical Graduate

State Medical College
September 1954

Dear Graduate:

With the end of your medical school days, you come to graduation with a magnificent supply of knowledge and skills, and a remarkable inheritance of therapeutic procedures and remedies. You also have great traditions to inspire you and a great heritage to perpetuate.

This is a real challenge. You have an opportunity to serve and to create that is limited only by your strength and the time you will have available. But great opportunities are inescapably linked with great responsibilities. It is a fine moral concept that those who have great talents are expected to make great contributions.

I would like now to call to your attention certain challenges that are before the young person entering the medical profession:

INTEGRITY: The first great challenge to which I would call your attention is the possession of integrity. The doctor must have this character trait in full measure. Hippocrates, whose oath you have just taken, said the physician "should also be modest, sober, patient, prompt to do his whole duty without anxiety; pious without going so far as superstition, conducting himself with propriety in his profession and in all the actions of his life." The "Principles of Ethics" of the American Medical Association state that "a physician should be an upright man instructed in the art of healing. He must keep himself pure in character and be diligent and conscientious in caring for the sick. Whoever chooses this profession assumes the obligation to conduct himself in accord with its ideals. "The prime object of the medical profession is to render service to humanity; reward or financial gain is a subordinate con-

sideration." These principles clearly enunciated in the code of ethics of your profession chart the way for you.

Concerning financial gain I will comment briefly. Your code says that this objective shall be a subordinate one, but it does not imply that it should be absent. The physician is most certainly entitled to a financial consideration in keeping with his services. To be realistic, he needs to earn a liberal stipend in order to serve best his fellowman. Specifically, he needs money to provide for himself those things that will keep him the most efficient under the heavy strain and responsibility that he must bear. These include a good home, efficient equipment, good assistants, liberal allowances for the complete care and education of his family, travel to professional meetings, relaxation, vacation and the privilege of saving something for the time when he will have to become less active.

The medical profession has met this challenge squarely as a group, although some bad individual exceptions do exist. It is the rule of the profession to treat the poorest person with the same care and professional skill as the more fortunate wealthy patient. You have already committed yourself admirably in this respect by the tremendous effort you have put forth thus far at a financial loss. In the financial race, your college classmate who went into business when you started for medical school will enjoy a large financial advantage over you by the time you first have patients in your office; and if he puts forth as much effort as you will use, he will make a financial amateur out of you in the long run. Thus, your financial record is one of self-sacrifice so far. It always will be good if you remain true to the principle of giving adequate time and your best efforts to the service of your patients without thought of financial reward. Of course it is clear to you that the highest satisfaction of the medical profession is in being able to serve humanity; this transcends financial reward.

TO KEEP UP WITH ADVANCES IN MEDICINE: A second challenge of outstanding importance to the physician is to keep up with the scientific advances of medicine. The reading of medical and scientific journals must be done, and attendance at medical meetings, clinics and postgraduate courses is necessary. The closer you keep to the basic sciences, the better it will be for your professional growth. Your instructors have kept in mind the importance of a training so rigid in basic science that it will carry forward with you for many years the capacity and desire to dig into current medical literature. This is so im-

portant because of the advances in the practice of medicine that are sure to come as a result of scientific research -- advances that will very probably accelerate in the future. New diagnostic methods, new concepts of disease and new methods of therapy will appear rapidly throughout your career. It is a stimulating challenge to you to keep up with these advances.

SOCIAL AND MORAL RESPONSIBILITY: Another challenge to the physician is the obligation to elevate social and moral standards of his community. Perhaps he is too busy to realize it, but the doctor has a real influence upon the morals and thinking of his community. Because of his intimate relations with his patients, his advice is sought in many matters other than health. And since he is biologically-minded and knows better than any other professional person how the human being functions, the doctor is preeminently well adapted to give advice on moral and ethical matters.

For such service he is in a very favorable position. Unlike the politician who finds all that he can on the vote-getting side of a question and overlooks the other side, the physician is committed to seek and use the truth. He has to get and use all of the evidence in his work, and this type of thinking is exceedingly desirable in decisions affecting human life and conduct. Hence the physician, by precept, example and through his teaching, exercises an outstanding influence upon the moral and intellectual pattern of his community.

CRITICAL ATTITUDE: Another challenge of importance to the doctor is to maintain a critical attitude in his work. Modern medicine has available many remedies and makes use of many diagnostic aids. There is a strong tendency now for drug houses and other organizations to attempt to do the doctor's thinking for him and thus influence his use of their products. The advertisements and agents are very subtle but the intent is recognizable. The physician owes it to his patients and to himself to be alert, critical and resistant to the many salesmen of products of unproved therapeutic value.

There is also great need to be critical of laboratory testing. Medicine now makes use of many laboratory tests. These have their value, but they must be used with discretion. The doctor must know the possibilities and limitations of the tests he uses. To order laboratory work indiscriminately increases the expense to the patient and perhaps confuses the doctor who makes the useless orders. Therefore, you will have to study very seriously the new

diagnostic aids and the new therapies, and this means that you will have to be a lifelong student. So your student days are not over. The pressure of immediate examinations is off but the graver examination of your daily work will always be with you.

PROFESSIONAL OBLIGATIONS: Finally, I would mention that you have the serious obligation of maintaining the ideals and standards of your profession; you owe a debt to medicine which you should continuously try to repay. You are heir to principles gained through the experience of thousands of your predecessors and you are to have the great opportunity of using the remarkable tools made available to medicine by scientific research. This is a great privilege and you can best repay your debt by payment in kind; that is, by helping to add to the store of medical knowledge and by upholding the ideals of the medical profession.

Formal medical education begins in medical school and is continued actively by medical societies, clinics, journals and books. But it is a distinctive feature of the medical profession that teaching one's young colleagues on a man-to-man basis is a universal practice. Soon you will have teaching to do for the benefit of your colleagues. You will encounter some unusual cases which it will be your privilege to report for the education of your fellow workers, and perhaps you will be privileged, through research, to make discoveries and new contributions to medicine. I would like to urge you to seize and promote actively all such opportunities. You have chosen a way of life which demands progress. The medical profession must not become static. It must grow in competence. So set your professional ideals high and be responsive to the needs and the fine traditions of your profession.

Your responsibility for professional standards extends of course into the ethical realm. Your profession is not lacking in moral precepts. The teachings of many great men in medicine, from Hippocrates to present contempories, have contributed to the establishment of high standards of conduct. These standards have been codified by the American Medical Association in their publication, "Principles of Medical Ethics." It is your obligation to maintain these high standards and when new situations not covered by the book or past experience arise, to create new and even better ethical standards.

In summary, I will say that I have recalled the stimulating and enjoyable experiences of your medical school days. I have reminded you of the greatness of the science and the art of medicine. I have set forth certain chal-

lenges of the profession you have chosen. The physician should be a man of the highest integrity. He should put forth his best efforts for the benefit of his patients, keeping rewards or financial gain as subordinate considerations and realizing that the highest satisfaction of the medical profession is to serve humanity. He must strive to keep up with the advances in medicine that are sure to come. He should give of himself freely for the social and moral advancement of his community. He must adopt a critical attitude toward new remedies and methods, and new techniques and tests. Finally, the physician owes a great debt to medicine for the privileges he enjoys. He can best repay this debt by upholding the high scientific and ethical standards of the profession, by teaching his colleagues and by adding to medical knowledge whenever an opportunity arises.

And now you are on the threshold of a great career. The marvelous instruments of science and the great body of medical knowledge created by scientific research are at your disposal. Your life-work can be a symphony of useful services. You can prevent suffering, lengthen the lives of human beings and teach people a more harmonious philosophy of life. It is a supreme privilege to lengthen the life of a single individual; yet you are to have this privilege as a daily routine task. This is a stimulating and challenging opportunity. You have worked very hard for this privilege, but you are indeed fortunate.

Along with my colleagues of the faculty, I wish you great success and great happiness in the magnificent career that is before you.

Sincerely,

Joseph H. Roe

Joseph H. Roe
Professor of Biochemistry
George Washington University
School of Medicine

The Place of the Medical School Coordinator in the Cancer Control Program

MURRAY M. COPELAND

IN CONSIDERING the disparity between the good end results of cancer treatment as reported in the literature and the less satisfactory statistics which actually obtain in the nation at large, we must evaluate the information which the average doctor has about the subject of cancer and the facilities he has with which to make the diagnosis. We must consider the stimulus level among patients activating them to proceed to the physician because of unusual symptoms or signs of which they may be aware. We must also consider the level of intelligent procedure which the physician will initiate after the patient has been examined.

Studies at the Memorial Hospital on delay in cancer diagnosis for 1923 through 1930 show that patients alone were responsible in 44.3 per cent; that patient and physician were responsible in 18 per cent, and that physicians alone were responsible in 17 per cent of the instances noted. There was no appreciable delay of diagnosis in 27.7 per cent of the total number of cancer cases admitted during that period. In the year 1946, patients alone were responsible for delayed diagnosis in 32 per cent of the cases; the patient and physician in 10.8 per cent of the cases; the physician alone in 27.8 per cent of the cases, and there was no delay in 29.4 per cent of cancer patients seeking aid. It would appear that the level of patient stimulus to seek aid has risen through the activities of local and national organizations which inform the public concerning the cancer problem. It would also appear that at least one group of referring physicians has not improved in diagnostic acumen or in discovering cancer and doing something about it.

The family physician is the person upon whom the great mass of people rely for care in illness. He has the first opportunity to suspect and discover the existence of cancer and other malignant conditions in the early stages. Dr. Raymond Kaiser of the National Cancer Institute has emphasized that the family physician is the "pivotal figure" in any cancer program because the welfare of the patient depends on his judgment, his advice and its reception.

Recognizing the fact that the average physician will see an average of two cancer cases annually, and taking cognizance of the difficulties involved in increasing his familiarity with the disease through postgraduate training, it became evident to the National Advisory Cancer Council that every physician should have the opportunity while in medical school

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to understand the cancer problem both with reference to early detection and the best methods of treatment.

In 1944 a study was made of the teaching of cancer in medical schools by a subcommittee of the National Advisory Cancer Council. This study definitely indicated that a need existed for improving cancer teaching, and in 1946 a joint conference of the council with the medical school deans and educators of accredited medical schools in this country was held at the National Cancer Institute to discuss the problems of cancer teaching. They agreed that substantial changes should be made in professional cancer education in an effort to further enlighten future generations of physicians on the cancer problem and thus to better the cancer control statistics now current in nationwide reports.

The conference recommended:

(1) That deans and faculties of the various medical schools review their teaching of cancer.

(2) That consideration be given to the integration of cancer instruction in the four years of medical school training.

(3) That steps be taken to stimulate cancer research in the various schools since research improves teaching and stimulates student interest.

(4) That the United States Public Health Service consider ways and means of providing necessary financial assistance to the medical schools undertaking these programs of cancer teaching, and that annual grants of from $10,000 to $25,000 be made available for schools with approved programs for a period of two years or more.

In June 1947, the National Cancer Institute, with the approval of Congress, undertook a program of grants to coordinate the teaching of cancer in approved medical schools. The intent of the program was not training specialists in oncology in the same sense that specialists are trained in radiology, pathology or surgery, but that it should have as its objectives: (1) development of the awareness of cancer among medical students; (2) coordination of a cancer teaching program in the medical school which would provide the student with a comprehensive concept of neoplastic diseases correlated with the general medical school curriculum; (3) emphasis of the need of group presentation and consultation among the various specialists for the discovery, diagnosis and treatment of the neoplastic process; (4) promulgation of the utilization of current knowledge concerning the disease, filling in many of the fenestra previous training had failed to disclose; (5) provision of medical service for cancer patients; (6) obliteration of the point of view that cancer is incurable if diagnosed in time and treated properly; (7) stimulation of student interest in cancer research; (8) increase participation of the various preclinical departments in clinical teaching.

It was realized from the beginning that the most effective methods of improving cancer teaching would vary from school to school, and there was no desire on the part of the council to suggest a uniform plan. Each school was encouraged to develop the type of teaching program which best met its particular circumstances. Great latitude was given the schools in the use of grant funds, with the reservation that the monies should not be used to replace existing budgetary commitments nor to underwrite specific research projects.

Experimental Programs

Rising out of this situation was es-

tablishment in the medical schools of what might be called experimental programs in cancer education. It was recognized that to fulfill the purposes of the program effectively, varying amounts of integration were necessary. To do this effectively it seemed best accomplished through the establishment of a position variously titled but essentially that of "coordinator of cancer teaching." As might be expected, some difficulty in securing qualified individuals to serve in this capacity was encountered. Some schools found it necessary to recruit such personnel from outside their own institutions. However, in a relatively short period, all participating schools had designated a staff member to serve as cancer coordinator.

At a meeting of the cancer coordinators at Boston in September 1952, it was pointed out that there were seven radiologists, 24 pathologists, 37 surgeons, seven internists and four physicians from other specialties serving as cancer coordinators. These figures vary from year to year due to changing of coordinator personnel in the various schools. At first radiologists and pathologists were primarily concerned with the cancer teaching problem, but more recently internists and surgeons have become interested. In some 20 schools the department of medicine has been stimulated by this program to become active in cancer teaching.

In a few instances coordinators have been appointed as heads of separate departments of oncology. In general, however, they serve as chairmen of cancer committees with representation from the departments of radiology, surgery, pathology, internal medicine and medical administration. These committees have many responsibilities, but in general concern themselves with cancer teaching and research, and serve as a screening advisory group for research activities and other matters related to cancer teaching within the medical school. Since the beginning of the programs, 79 schools have instituted cancer committees.

As was to be expected, professional men charged with responsibility for the program encountered a number of common problems in the conduct of their teaching programs such as the difficulty in crossing departmental lines, varying degrees of inflexibility in the medical school curricula, the increase in general medical knowledge which the student must assimilate during his undergraduate years in medicine and, in some cases, inertia on the part of the medical school authorities. It was also noted that the concept of teaching cancer as a unified subject at first seemed to conflict with the orthodox principle of "horizontal teaching." This raised considerable discussion and variations of opinion among the medical schools as to the advantages of vertical versus horizontal teaching. For example, while horizontal teaching stimulates student interest in the problems of cancer, it is circumscribed by the area of the human body under study. However, it does permit contacts with patients on the hospital ward and in the outpatient department.

The vertical scheme of teaching cancer, on the other hand, provides a comprehensive, integrated approach to the various neoplastic disease entities in addition to the so-called horizontal instruction. The vertical method of teaching is frequently done by a coordinator with a selected professional staff thoroughly familiar with the cancer problem. This form of cancer teaching makes for crystallization of knowledge in the undergraduate student, integrates his think-

ing and well equips him to diagnose if not to treat cancer. It also offers an opportunity to emphasize fundamental cancer research activities in the medical school and to stimulate and promote student interest in research of neoplastic diseases.

It is our experience at Georgetown University Medical Center that the vertical form of teaching as well as the departmental teaching of the subject is advantageous in the medical school curriculum. While the student gathers more intimate details of specific diseases at the departmental level, vertical teaching correlates the student's thinking and lends emphasis to neoplastic diseases as an important problem in the practice of medicine. Coordination of pathologic material and other visual educational armamentaria in the hands of the coordinator also makes for efficiency and is to be recommended.

The teaching problems mentioned above are being gradually resolved each year, bringing further extension of suitable cancer teaching programs into all medical schools.

The schools present many variations in their programs to improve undergraduate medical education in cancer, but all have one common denominator—the coordinator of cancer teaching: an individual of professorial rank who is responsible for the correlation of individual efforts at departmental levels.

Dr. Raymond Kaiser has provided statistics which indicate that through the cooperative efforts of medical school deans the cancer coordinator in most institutions receives adequate assistance through the support of department heads, instructors, teaching fellows, stenographers, clerks, technicians and research associates. In 1950, under the teaching program, 73 men in 39 schools received training toward their specialty boards (pathology, 23; surgery, 20; internal medicine, 14; radiology, 12; obstetrics and gynecology, three and pediatrics, one) while serving as instructors in cancer teaching. Through funds provided for this program, 132 additional individuals have been added to the staffs of the nation's medical schools.

Realizing that the teaching program centers largely around the tumor clinic or cancer detection clinic, in 1950 20 medical schools had established tumor clinics and 39 additional schools had expanded or improved their cancer clinics. Evidence of inadequacy of materials for visual education have, in certain instances, brought about the establishment of photographic departments. In 53 schools the pathology service was strengthened through preparation and collection of lantern slides or additional equipment in the pathological laboratory. Nine schools established tumor registries. In 27 schools a cancer cytology teaching service was instituted to enhance the cancer teaching program.

With time, the correlation of departments and disciplines has been increased through initiating or strengthening of cancer seminars, the development of general tumor conferences and departmental conferences in the schools. Recognizing the fact that good clinical records and adequate follow-up services play an essential part in the management of cancer cases, as well as in cancer teaching, 38 medical schools have improved these areas of endeavor. As a means of drawing together the fragments of cancer knowledge which a medical student may have acquired during the early years of his medical training, 48 schools have inaugurated new cancer courses in the last three

years of the medical curriculum concerned with cancer biology, its historical background and advancement of cancer research with its clinical applications. Two schools have found it desirable to extend their cancer teaching in the new field of radioisotopes. Of major importance is the fact that 31 schools have undertaken clinical research, bringing the departments of medicine more actively into the cancer teaching program.

Summary

The cancer coordinator, therefore, either as heading a separate department or acting as chairman of a cancer committee under the direction of medical school deans, has been able to bring about a general acceptance of the program for improving cancer teaching in most of the medical schools of the country. He has stimulated an increased awareness for the necessity of emphasizing cancer teaching at the departmental level. He has been able to stimulate the participation of the internist, surgeon, pathologist and radiologist in cancer teaching. He has been influential in helping to integrate cancer teaching within the general medical school curriculum. He has broadened the concept of cancer as a disease worthy of special attention and has urged identification of it as a distinct but not necessarily separate public health, therapeutic and research problem.

He has been able, through joint efforts within the various medical schools, to bring about improved cancer facilities and services for cancer patients through the establishment and further development of cancer clinics. He has focused attention on the value of visual education to a greater extent than ever before. He has been able, with the assistance of his colleagues, to establish photographic departments and to supplement facilities and materials for visual education. He has stimulated interest in the establishment of more adequate record systems. He has assisted in the development of follow-up services. He has encouraged cancer research programs and stimulated research by students.

The measure of success of the cancer coordinator's program for improving cancer teaching depends not only on the formulation of instruction and its organization in the school curriculum, but also on the enthusiasm and sound leadership of the cancer coordinator, together with those of his colleagues charged with the development of the program.

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A PANORAMIC view of the French Lick Springs Hotel and surrounding grounds may be seen in the picture above.

Preview of the Sixty-Fifth Annual Meeting

PROGRAM PLANS have been completed for the 65th Annual Meeting of the Association of American Medical Colleges. The meeting will be held October 18-20 at the French Lick (Ind.) Springs Hotel.

On Sunday, October 17, the day immediately preceding the formal opening of the Annual Meeting, a symposium on graduate medical education will be conducted. The symposium, scheduled to begin at 2:30 P.M., is being organized by the Association's Committee on Graduate Medical Education. Dr. Kendall Corbin, committee chairman, will preside.

Formal opening of the 65th meeting will be at 9 A.M., Monday, when new deans will be introduced. Following this ceremony, Association President Dr. Stanley E. Dorst will deliver his Presidential Address. Dr. Dorst, dean of the University of Cincinnati College of Medicine, will complete his presidential year during the Annual Meeting.

The balance of the Monday sessions will be devoted to reports and discussions of the Teaching Institute on Pathology, Microbiology, Immunology and Genetics, second in the series of Association-sponsored Teaching Institutes. The Institute will be held immediately preceding the 65th Annual Meeting.

During the morning session, Institute participants will present highlights of the five-day meeting. In the afternoon, a number of small round table groups will be held to discuss various aspects of the Teaching Institute.

Annual Dinner: A highlight of the program being planned in connection with the Annual Dinner on Monday evening will be an address by John Courtney Murray, S. J., editor of *Theological Studies* since 1941. Professor of theology at Woodstock (Md.) College since 1937, Father Murray is a fellow and former vice president of the Conference on Science, Philosophy and Religion, and a member of the American Political Science Association and the Amer-

DR. HINSEY

DR. DORST

DR. DARLEY

DR. LIPPARD

ican Catholic Theological Society. He is the author of numerous articles published in educational, theological and secular periodicals, and in 1945-46 was an associate editor of *America*.

Another highlight of the Annual Dinner will be presentation of the 1954 Borden Award in the Medical Sciences. Dr. Ashley Weech, chairman of the Association's Committee on the Borden Award, and John H. McCain, secretary of the Borden Company Foundation, will present the Award.

Tuesday: A brief business meeting will open the Tuesday morning program. At this time, meeting registrants will hear the report of the Nominating Committee and elect officers for the 1954-55 year. To be named are a president-elect, vice president, treasurer, and two members of the Executive Council, each to serve three-year terms.

Following the business session, three speakers are scheduled to address the meeting. The first of these will be Dr. Theodore Lidz, professor of psychiatry at Yale University School of Medicine, and a member of the executive committee of the 1951 and 1952 conferences on psychiatric education. He will discuss "The Results of the Ithaca Conferences on the Teaching of Psychiatry."

Next on the program will be Dr. John P. Hubbard, professor of preventive medicine and public health at the University of Pennsylvania School of Medicine, and chairman of the Editorial Committee of the 1952 Colorado Springs Conference on Preventive Medicine in Medical Schools. Dr. Hubbard will speak on the results of the Colorado Springs conference.

Final speaker on Tuesday morning will be Dr. Julius H. Comroe, chairman of the 1953 Atlantic City Institute on the Teaching of Physiology, Biochemistry and Pharmacology, and professor of physiology and pharmacology at the University of Pennsylvania Graduate School of Medicine. Dr Comroe will discuss the results of the Institute.

Following a noontime recess, the meeting will reconvene for two addresses on the main theme of "Professional Education as a University

DR. MIDDLETON

DR. YOUMANS

SHOWN on this and the following page are officers and members of the Association's Executive Council for 1953-54.

DR. BOWERS

DR. BERRYHILL

DR. AAGAARD

DR. KIMBALL

Function." Discussing the subject from the viewpoint of a university chancellor will be Dr. Henry T. Heald, chancellor of New York University. The point of view of a law school dean will be given by Dr. Shelden D. Elliott, dean of New York University School of Law.

Late Tuesday afternoon, simultaneous open hearings on annual reports of Association standing committees will be conducted.

At 9 P.M., Tuesday evening, the Medical Audio-Visual Institute will sponsor two film programs. One of these, in which films of general interest will be presented, will include the National Committee for Careers in Medical Technology's "Career: Medical Technology." The other program, containing films of interest in medical teaching, will include "Fractures about the Elbow," a Veterans Administration release.

During the evening, the new Executive Council will hold its first session.

Wednesday: The final day of the 65th Meeting will be devoted to the annual business meeting. After roll call and approval of the minutes of the 64th Annual Meeting, Dr. Joseph C. Hinsey, chairman of the 1953-54 Executive Council, will present his report. This will be followed by the annual reports of Association staff members: Dr. Dean F. Smiley, secretary and editor of the Journal of MEDICAL EDUCATION; John M. Stalnaker, director of studies, and J. Edwin Foster, director of the Medical Audio-Visual Institute. Dr. John B. Youmans, treasurer, will present his annual report at this session.

Chairmen of 13 AAMC standing committees also are scheduled to give their reports and recommendations. Committees and chairmen are:

- Audiovisual Education—DR. WALTER A. BLOEDORN.
- Continuation Education—DR. JAMES E. MCCORMACK.
- Editorial Board—DR. JOHN Z. BOWERS.
- Financing Medical Education—DR. JOHN B. YOUMANS.
- Graduate Medical Education—DR. KENDALL CORBIN.
- International Relations in Medical Education—DR. FRANCIS SCOTT SMYTH.

MR. STALNAKER

DR. SMILEY

- Internships and Residencies—DR. CURRIER MCEWEN.
- Licensure Problems—DR. CHARLES A. DOAN.
- Medical Care Plans—DR. DEAN A. CLARK.
- Planning for National Emergency—DR. STANLEY OLSON.
- Public Information—DR. JOHN L. CAUGHEY.
- Teaching Institutes and Special Studies—DR. GEORGE PACKER BERRY.
- Veterans Administration—Medical School Relationships—DR. R. HUGH WOOD.

Other business to be conducted includes confirmation of the time and place for the 66th Annual Meeting in 1955, presentation of resolutions and installation of officers for 1954-55. At this time Dr. Vernon Lippard, president-elect in 1953-54, and dean of Yale University School of Medicine, will be inducted as Association president and newly-elected officers and members of the Executive Council will be installed.

The October issue of the Journal of MEDICAL EDUCATION will carry the complete official program for the 65th Annual Meeting, and in November, a text-and-picture report of the meeting will be published.

Teaching Institute

The Association's second Teaching Institute on Pathology, Microbiology, Immunology and Genetics will be held at the French Lick Springs Hotel, October 10-15, immediately preceding the 65th Annual Meeting. Dr. Douglas H. Sprunt, professor of pathology at the University of Tennessee School of Medicine, is chairman; Dr. Robert A. Moore, vice chancellor of the University of Pittsburgh, is Institute co-chairman.

Attendance is by invitation only. There will be one participant from each of the 83 medical schools in the United States, from 11 of the 12 medical schools in Canada and one from the Philippines. The list follows:

CHAIRMAN of the 1954 Teaching Institute is Dr. Douglas H. Sprunt (right). Co-chairman is Dr. Robert L. Moore (left), who is a member of the AAMC Executive Council.

Alabama, J. F. A. McManus
Albany, Scott V. Covert
Arkansas, Anderson Nettleship
Baylor, Kenneth L. Burdon
Boston, William C. Boyd
Bowman Gray, C. Nash Herndon
Buffalo, Ernest Witebsky
California S. F., David A. Wood
California L. A., Sidney C. Madden
Chicago Medical, I. Davidsohn
Chicago, Univ. of, James W. Moulder
Cincinnati, Edward A. Gall
Colorado, Richard Thompson
Columbia, Harry M. Rose
Cornell, John Y. Sugg
Creighton, B. Carl Russum
Dartmouth, Ralph E. Miller
Duke, Wiley D. Forbus
Einstein, Alfred Angrist
Emory, Morris Tager
Georgetown, Charles F. Geschickter
George Washington, Angus M. Griffin
Georgia, Robert B. Dienst
Hahnemann, C. G. Tedeschi
Harvard, Emanuel Suter
Howard, Robert S. Jason
Illinois, John B. Fuller
Indiana, Parker R. Beamer
Iowa, Emory D. Warner
Jefferson, W. Paul Havens Jr.
Johns Hopkins, Thomas B. Turner
Kansas, Robert E. Stowell
Louisiana, G. John Buddingh
Louisville, A. James Miller
Loyola (Stritch), John F. Sheehan
Marquette, Joseph F. Kuzma
Maryland, Charles L. Wisseman Jr.

Medical Evangelists, Carrol S. Small
Meharry, Charles W. Johnson
Miami, W. A. D. Anderson
Michigan, Walter J. Nungester
Minnesota, Dennis W. Watson
Mississippi, William V. Hare
Missouri, Joseph E. Flynn
Nebraska, James Perry Tollman
New York Medical, Francis D. Speer
New York Univ., A. M. Pappenheimer Jr.
North Carolina, William J. Cromartie
North Dakota, Robert G. Fischer
Northwestern, William B. Wartman
Ohio State, Hans G. Schlumberger
Oklahoma, Howard C. Hopps
Oregon, Frank B. Queen
Pennsylvania, Dale R. Coman
Pittsburgh, Frank J. Dixon
Puerto Rico, E. Harold Hinman
Rochester, Charles L. Yuile
St. Louis, John P. Wyatt
South Carolina, John T. Cuttino
South Dakota, Charles D. Cox
Southern California, Harold E. Pearson
Southwestern, A. J. Gill
Stanford, Alvin J. Cox
State Univ. N. Y., N. Y. C., Patrick J. Fitzgerald
State Univ. N. Y., Syracuse Martin F. Hilfinger Jr.
Temple, Earle H. Spaulding
Tennessee, William M. Hale
Texas, Frank B. Engley Jr.
Tufts, Ralph E. Wheeler
Tulane, Charles E. Dunlap
Utah, Richard H. Follis Jr.
Vanderbilt, Ernest W. Goodpasture
Vermont, George A. Wolf Jr.
Virginia, Univ. of, Alto E. Feller
Virginia, Med. Col. of, E. Clifford Nelson
Washington, Univ. of, Charles A. Evans
Washington, St. Louis, Arthur Kornberg
Wayne, Osborne A. Brines
Western Reserve, Robert F. Parker
West Virginia, John M. Slack
Wisconsin, D. Murray Angevine
Woman's Medical, Ruth E. Miller
Yale, Harry S. N. Greene
Alberta, John W. Macgregor
British Columbia, Harold E. Taylor
Dalhousie, Roger W. Reed
Laval, Carlton Auger
Manitoba, John M. Lederman
McGill, G. Lyman Duff
Montreal, Victorien Fredette
Ottawa, Randolph J. Gibbons
Saskatchewan, Donald F. Moore
Toronto, John D. Hamilton
Western Ontario, R. G. E. Murray
Philippines, Solita F. Camara-Besa

Committee members, in addition to those who are serving as participants from their medical schools, are: Thomas P. Almy, Cornell; Granville A. Bennett, Illinois; George Packer Berry, Harvard; Walter J. Burdette, Louisiana; Stanley E. Dorst, Cincinnati; John B. Graham, North Carolina; Edwin A. Lawrence, Indiana; Colin M. MacLeod, New York University; James V. Neel, Michigan.

Other participants, representing allied disciplines and other organizations dealing with medical education, are: Amos Christie, professor of pediatrics at Vanderbilt; Bernard D. Davis, USPHS Tuberculosis Research Laboratory; Elbert DeCoursey, Armed Forces Institute of Pathology; Geoffrey Edsall, Army Medical Service Graduate School; Frank Fremont-Smith, Josiah Macy Jr. Foundation; J. R. Heller, National Cancer Institute; Raymond F. Kaiser, National Cancer Institute; Robert S. Morison, Rockefeller Foundation; John R. Paul, Association of Teachers of Preventive Medicine; Curt Stern, professor of zoology at California (Berkeley); Edward L. Turner, AMA Council on Medical Education and Hospitals; Charles O. Warren, Commonwealth Fund; James Watt, National Heart Institute; W. Clarke Wescoe, 1953 Teaching Institute; and J. Franklin Yeager, National Heart Institute.

The Coordinators of Cancer Teaching are cooperating in this Teaching Institute, and 15 of the coordinators will participate in the full Institute. Their own meeting, attended by all cancer coordinators, will follow on October 15-16. The two groups will have a joint program on Friday morning, October 15, which will be the closing session of the Teaching Institute and the opening session of the meeting of the cancer coordinators.

Editorials and Comments

The Internship Dilemma

THE BASIC CAUSE of the present internship dilemma is the fact that we find ourselves with many more internships offered than the need of our present graduating class of young physicians requires. Of the 6,665 registered hospitals, 856 are approved for intern training. In these 856 approved hospitals, 11,006 internships were offered.[1] Of these, 10,726 were listed under the National Intern Matching Program and as of March 1954 only 6,051 were filled by American students making their choices under the National Intern Matching Program, Inc.[2] Another estimated 1,800 places were filled by foreign medical graduates, but the fact remains that between 2,875 and 4,955 internships planned in approved hospitals this year had no takers, much to the dismay of those who planned them.

Since no sensible person would argue that we should attempt to increase our medical graduating class to 11,006 simply because our hospitals happened to offer that number of internships, the only logical approach to the problem is to reduce the number of internships. But what hospitals are willing to give up the internships they have been at such pains to develop?

Those hospitals affiliated with medical schools are inclined to view the internship as a fifth year of medical education and insist that if any internships are to be abandoned they should be those in hospitals where there is no staff of experienced medical teachers but only clinicians doubling in their role as teachers.

Those hospitals unaffiliated with medical schools are more apt, however, to view the internship as apprenticeship training or medical practice under supervision and to argue that what they have to offer in the way of greater responsibility for patient care is more valuable to the intern than is the more systematically planned but more circumscribed program in the university hospital. They point out also the fact that in university hospitals there are junior and senior clinical clerks below the intern and various categories of residents above him. They ask if the student, after four years of medical school work, isn't better off to take his year of internship out of the "ivory tower environment of the university hospital," even if he is to return there for an assistant residency or a residency.

There is much to be granted on both sides of this argument and concessions must be made from both sides to solve the problem of reducing the total of internships offered to a number that has a reasonable chance of being filled each year. There are a few teaching hospitals affiliated with medical schools where the activities of the junior and senior clinical clerks on the one hand, and the activities of the assistant residents and

residents on the other hand, have been so developed as to leave to the interns a very limited field of activities and a very limited opportunity to assume responsibility for patient care. Where such a hospital, to take a single example[2] seeks 36 interns and receives but 15 under the National Intern Matching Program by its students' own choice, a conscientious self-analysis seems indicated. Either the asking quota should be voluntarily reduced or the internship should be reorganized in order that it may be made more educationally attractive.

But by the same token, a nonaffiliated hospital that asked for 20 interns and got none[2] should be expected to analyze its own teaching program and motives. If the interns of the recent past had received what they considered to be good supervision and training, would they not have advised the present medical college seniors to apply? If the recent interns had been burdened with large numbers of histories, physical examinations, urinalyses, blood counts and routine ward work, with only a modicum of planned instruction from the attending physician, would they be expected to advise others to repeat their mistake? If a good teaching program cannot be provided and service is really what is wanted, would it not be wiser for the hospital to abandon the intern training program and attempt to meet the service needs with salaried staff?

The elements of a good internship are a well-organized teaching program with a well-qualified and actively interested attending staff, and a wealth of clinical material with ample opportunity for the intern to assume increasing responsibility for patient care. It is upon this basis that hospitals must compete for interns and no hospital has any right to expect to attract interns if it cannot provide these elements.—D. F. S.

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1. Leveroos, Edward H. and Von Ehren, Warren R.: "Approved Internships and Residencies in the United States," *J.A.M.A.*, Vol. 154, No. 4, pp. 275-432, September 26, 1953.
2. Stalnaker, John M.: "Hospitals Participating in the Cooperative Matching Plan for Internship Appointment Indicating Number of Interns Sought and Number Matched." National Intern Matching Program, Inc. 185 N. Wabash Ave., Chicago 1, Ill. March 1954.

The University of Puerto Rico's School of Medicine

When the University of Puerto Rico was founded in 1903, its charter provided that as soon as sufficient funds were available a medical department would be established. Not until 1924 was it possible, however, to make a start in that direction. In that year development of the school of tropical medicine was begun and in 1929 a school building and 52-bed research hospital were completed in San Juan under the auspices of Columbia University.

In 1943 and in 1945 surveys were conducted and recommendations made by medical educators both from Puerto Rico and the United States, and the decision was finally made with the full approval of Columbia University that the University of Puerto Rico in Rio Piedras should assume complete responsibility for the school in San Juan and that it should be developed into a full-fledged school of medicine. On May 15, 1949, the legislature of Puerto Rico, upon the recommendation of the

Superior Education Council, approved the legislation necessary to bring this about.

During the succeeding four years Chancellor Jaime Benítez converted the beautiful old building of Spanish renaissance design, added a complete new wing, recruited a fine faculty and established a four-year medical school, modern and well-equipped in every way for the instruction of classes of 50 students. Throughout this period of transition Chancellor Benítez sought out the best counsel he could obtain, both on the island and abroad, and Dr. Harold Brown of Columbia University's School of Public Health served very effectively in a special advisory capacity.

The city of San Juan has cooperated wholeheartedly in the development of the new school and the 340-bed San Juan City Hospital serves as the major teaching hospital of the school with the heads of the school clinical departments having offices at that hospital.

Representatives of the Association of American Medical Colleges and of the Council on Medical Education and Hospitals of the American Medical Association have visited the school each year in an advisory capacity on Chancellor Benítez' invitation and they have been very favorably impressed with the way in which the school's staff facilities and teaching program have been planned and developed.

At the 64th Annual Meeting of the Association of American Medical Colleges in Atlantic City, October 28, 1953, the Association authorized its Executive Council to act for it, on completion of its last visitation, scheduled for February 7 to March 7, 1954, in voting the University of Puerto Rico School of Medicine into membership in the Association of American Medical Colleges as a full-fledged, four-year school of medicine.

To Chancellor Jaime Benítez and Dean Harold Hinman, our congratulations and felicitations are definitely due.—D. F. S.

NEWS DIGEST

Beaumont Memorial Dedicated

On July 17, ceremonies marked the dedication of the reconstructed old trading post on Mackinac Island where, in June 1822, Dr. William Beaumont first treated Alexis St. Martin for a gunshot wound of the stomach and made medical history.

The Michigan Medical Society's Beaumont Memorial Committee, under the chairmanship of Otto O. Beck, raised $40,000 to acquire the building and restore it as nearly as possible to its original state.

The program consisted of an invocation, greetings by Brig. Gen. Elbert De Coursey (for the U. S. Army), Mrs. Curran P. Boyer of the Historical Society of Michigan and Mayor Leslie O'Brien of Mackinac Island. Surg. Gen. Leonard A. Scheele spoke, and Dr. L. W. Hull, president of the Michigan State Medical Society, presented the memorial to the state. Dr. Jean A. Curran, dean of the State University of New York College of Medicine, represented the Association of American Medical Colleges.

According to Dr. Curran's report of the ceremonies, "The famous building where the accidental wounding of St. Martin took place has a ground floor divided into two rooms; the larger a common room furnished with a rough wooden table and benches. Over the fireplace hangs an old Hudson Bay Company trading piece called a fusil or fuzee. It was designed to fire either fine shots or a ball and is a replica of the gun which wounded St. Martin with such extraordinary consequences to the advance of medical science.

"In the other room are a counter and shelves, where trappers used to trade furs for buckskins, moccasins and flamboyant shirts. It was in one of these rooms that Beaumont found St. Martin lying on a cot in what was first thought to be a dying condition, within three minutes after the accident.

There is also a collection of Beaumont's belongings, both professional and personal. Of special interest to medical men is the original record of the observations made on St. Martin. These notes could be used today, and help explain why Beaumont, under the crudest and most primitive conditions, was able to clarify for the first time the processes of gastric digestion.

Medical Education Fund Grants

Grants totaling $2,176,904.71, made possible by gifts from business and the medical profession, have been awarded to the nation's medical schools by the National Fund for Medical Education. The newest contributor is United States Steel Corp., whose initial gift was $50,000.

Each four-year school received $15,000 plus $25 per undergraduate medical student. Each of the two-year basic sciences schools received $7,500 plus $25 per student.

The fund grants, which are unrestricted, are used by the schools primarily to fill teaching vacancies, to create new faculty posts and to initiate new courses.

Apparatus Exhibit

An exhibit of scientific instruments and apparatus, sponsored by the scientific, motion picture and photographic products division of the Department of Commerce with the cooperation of the Scientific Apparatus Makers Association, will be on display in the lobby of the Department of Commerce building in Washington from September 27 to October 9. A

24-hour guard for the nation's scientific instruments is scheduled for the duration of the exhibit.

Medical Research Fellowships

The division of medical sciences of the National Academy of Sciences—National Research Council has announced that it is accepting applications for postdoctoral research fellowships for 1955-56. Fellowships are available in cancer research (both American and British-American exchange), medical sciences, tuberculosis and radiological research.

Applications must be postmarked on or before December 10, 1954. Information may be obtained from the Fellowship Office, National Academy of Sciences—National Research Council, 2101 Constitution Ave., N.W., Washington 25, D. C.

World Heart Contest

Physicians and research scientists from more than 40 countries will attend the Second World Congress of Cardiology in Washington, D. C., September 12-17.

A five-day scientific program in English, French and Spanish will be held at the National Guard Armory. In addition, over 250 papers will be presented during the formal scientific sessions to be held simultaneously. The program will cover coronary heart disease, rheumatic fever, hypertension, blood volume, heart surgery, congenital heart disease, electrocardiography and ballisto-cardiography, athersclerosis and diagnostic techniques.

Markle Foundation Grants

The John and Mary R. Markle Foundation has announced that it will continue for the eighth year its program of five-year grants for scholars in medical science. The purpose is "to offer academic security and financial help to medical school faculty members at the start of their careers in academic medicine."

Since the program was begun in 1948, the fund has appropriated a total of $3,950,000 toward the support of 136 doctors in 59 medical schools. The grants are made at the rate of $6,000 annually to the medical school where the scholar will teach and conduct research. Each medical school is invited to nominate one candidate on or before December 1. A publication outlining the plan is available on request from the foundation.

Television Training Guide

The Committee on Education Television, representing both the National Health Council and the American Public Health Association, in cooperation with a committee of the National Social Welfare Assembly, has prepared a Guide for a Television Training Institute. Tentative plans also are being made for a national series of 13 half-hour programs on social welfare problems.

Western Higher Education Commission

In the second edition of its publication "Higher Education in the West," the Western Interstate Commission for Higher Education has announced the appointment of Dr. Harold L. Enarson as executive director of the commission.

The commission also reported that representatives of Arizona, Colorado, Idaho, Montana, New Mexico, Oregon, Utah and Wyoming have voted to study means of pooling educational resources of their colleges. In the states mentioned above, plus Washington, Alaska and Hawaii, there are six dental schools, nine medical schools, three schools of veterinary medicine and one school of public health.

Infantile Paralysis Grants

The National Foundation for Infantile Paralysis has announced the award of grants and appropriations totaling $2,486,244, effective July 1, for research and professional education in poliomyelitis and related fields. The grants were given to 30 medical schools, universities, hospitals, research centers and educational

organizations in the United States, Canada and France.

Medical Library Association

The Medical Library Association, at its 53rd annual meeting in Washington, D. C. in June, elected the following officers: president, Wilma Troxel, Quine Library of Medical Sciences, University of Illinois; president-elect, Wesley Draper, librarian, Medical Society of the County of Kings and Academy of Medicine of Brooklyn; honorary vice president, Dr. E. H. Cushing, Washington, D. C.; secretary, Esther Judkins, Rockefeller Institute for Medical Research and treasurer, Pauline Duffield, librarian, State Medical Association of Texas.

The association announced that the 1955 meeting will be held in May at Marquette University School of Medicine, Milwaukee, Wis.

Marion F. Dondale, immediate past president of the association and librarian at Albany Medical College, died suddenly on June 28. She had presided over the 1954 meeting.

Welfare "Code of Ethics"

The committee on current financing factors of the National Social Welfare Assembly has released a statement on "Standards of Fund-Raising Practice for Social Welfare Organizations." The statement deals with administrative financial promotion practices which the committee feels should be maintained by welfare agencies.

Hospital Association Meeting

The 56th annual meeting of the American Hospital Association will be held at Navy Pier and the Palmer House in Chicago, September 13-16.

The basic theme of the program will be "Improvement of the Care of the Patient." In addition to guest speakers, sessions will be held on hospital care and hospital administration, and there will be a demonstration of a survey of a hospital for accreditation. There also will be films and working conferences on projects for hospital auxiliaries, on volunteer service, membership and public relations.

Reception for French Nurse

The American Medical Association and the American Hospital Association held a reception August 3 in the Drake Hotel, Chicago, for Genevieve de Galard-Terraube, the "angel of Dien Bien Phu." The nurse, who has been cited by France and the United States for her service to the wounded in Indo-China, recently made a tour of America at the invitation of Congress.

Disability Conference

The Sixth World Congress of the International Society for the Welfare of Cripples will be held at The Hague, Netherlands, September 13-17, to discuss improved methods of assistance to the physically handicapped.

"Changing Attitudes in a Changing World" will be the theme of the meeting, which will be held under the joint auspices of the International Society and its affiliate in the Netherlands, the Netherlands Central Society for the Welfare of Cripples.

Military Classification

A procedure for reclassification of Priority II-A registrants has been suggested to local boards by the National Advisory Committee to the Selective Service System. Its purpose is to assist in avoiding the possibility of calling up physicians in Priority III over 31 years of age, since many of the older group are in well-established practices and are more essential to medical schools and hospitals.

Physicians in Priorities I and II and that portion of Priority III born after August 30, 1922, are the groups most urgently needed to meet future calls to military service during fiscal 1955. Local boards have been advised, therefore, that with few exceptions II-A classifications be terminated for those who do not apply for commissions.

Closed Circuit TV

On September 23, the American College of Physicians will present a symposium on the management of hypertension over a national closed television circuit of the Columbia Broadcasting System. The telecast is being made possible with the support and cooperation of Wyeth, Inc., and will be the first nationwide closed circuit hookup for postgraduate medical education.

The panel will consist of Dr. Cyrus C. Sturgis, president of the American College of Physicians and professor of internal medicine, University of Michigan Medical School; Dr. F. H. Smirk, professor of medicine, University of Otago, New Zealand; Dr. Garfield G. Duncan, director of the medical division, Pennsylvania Hospital, Philadelphia; Dr. R. W. Wilkins, chief, hypertension clinic, Massachusetts Memorial Hospital, Boston and Dr. Edward D. Freis, adjunct clinical professor of medicine, Georgetown University.

Services for General Simmons

Funeral services in the Appleton Chapel of the Memorial Church at Harvard University and military burial in Arlington National Cemetery were held recently for Brig. Gen. James Stevens Simmons, 64, who died on July 31. General Simmons, U. S. Army (Retired), had been dean of the Harvard School of Public Health since 1946.

College Briefs

Albany

Three doctors from Thailand, Dr. TANOMRUEDEE PUMIPAK, Dr. VICHIEN DILOKSOMBANDH and Dr. PANIT KEYANUNDA, recently visited the medical school as part of a study of American teaching methods. All three doctors are faculty members at the Siriraj Medical School and Hospital in Bangkok, and have been in the United States for the past year under Foreign Operations Administration scholarships.

Arkansas

A National Institutes of Health grant of $73,340 has been awarded to Dr. PAUL L. DAY, professor and head of the department of biochemistry, and Dr. JAMES S. DINNING of the same department. The grant will be used for a five-year project on metabolic and nutritional aspects of white blood cell formation.

Dr. RICHARD V. EBERT has been appointed professor and head of the department of medicine. He was formerly professor of medicine at Northwestern University Medical School and chief of the medical service of the Veterans Administration Research Hospital in Chicago.

Baylor

The college of medicine has instituted a new policy of admitting approximately half of each entering class from outside Texas. The class entering for the current academic year includes students from 20 states and six foreign countries.

Dr. WILLIAM T. LHAMON, professor of psychiatry at the University of Pennsylvania Medical School, has been named chairman of the department of psychiatry and neurology.

Dr. ARTHUR KIRSCHBAUM has been appointed chairman of the department of anatomy, to a similar position at the University of Texas College of Dentistry and will also have a research affiliation with the M. D. Anderson Cancer Hospital. Dr. Kirschbaum was formerly chairman of the department of anatomy at the University of Illinois College of Medicine. Dr. JOHN C. HALEY will retire from the Baylor chairmanship, but will continue as professor of anatomy.

Buffalo

Dr. DOUGLAS S. RIGGS has been appointed professor and head of the department of pharmacology, effective July 1. Dr. ERNEST WITEBSKY has been named distinguished professor of bacteriology and immunology and CLIFFORD C. FURNAS has been appointed chancellor of the university, effective September 1, 1954.

California

A new office has been opened at 1344 Third Ave., San Francisco 22, for work in connection with the affiliation between the University of California School of Medicine and the Faculty of Medicine, Djakarta, Indonesia. Mail should be addressed to this location instead of to the dean's office.

Three faculty member of the San Francisco Medical Center have retired. They are Dr. KARL F. MEYER, director of the Hooper Foundation, Dr. ROBERT WARTENBERG, clinical professor of neurology and Dr. MICHAEL HOBMAIER, associate professor of comparative pathology.

Chicago Medical School

Dr. HENRY RAPPAPORT has been appointed associate professor of pathology and Dr. MITCHELL J. NECHTOW has been named clinical associate professor of obstetrics.

Dr. F. JOSEPH MULLIN, dean of the faculty and professor of physiology, has been elected president of Shimer College, Mt. Carroll, Ill. He succeeds Dr. A. J. BRUMBAUGH, who has relinquished his final year of the college presidency to become director of a study of the educational needs in Florida. Before coming to Chicago Medical in 1951, Dr. Mullin had served 13 years at the University of Chicago as associate professor of physiology, dean of students in the division of biological sciences and secretary of the faculties of the university.

Columbia

Improvement in the design and use of a mechanical cough-machine, employed in the treatment of certain respiratory polio patients, will be sought as the result of a grant of $25,394 from the National Foundation for Infantile Paralysis. Dr. ALVIN L. BARACH, professor of clinical medicine, will direct the project. The new device, known as an exsufflator, was originally developed with March of Dimes support several years ago.

Duke

Dr. WAYNE RUNDLES and Dr. SAMUEL P. MARTIN, associate professors of medicine, addressed the International Congress of Hematology in Paris this month. Dr. Rundles spoke on abnormal proteins in malignant blood disease and Dr. Martin's topic was leukocyte metabolism.

Dr. Martin also will address a symposium in London on October 8, sponsored by the Ciba Foundation and aimed at promoting international cooperation in medical and chemical research. His subject will be metabolic response to infection.

Dr. BAYARD CARTER, professor of obstetrics and gynecology, has been named an honorary fellow of the Society of Obstetricians and Gynecologists of Canada. He is president of the American Academy of Obstetrics.

Harvard

Dr. DANA L. FARNSWORTH, medical director at the Massachusetts Institute of Technology, has been appointed Henry K. Oliver professor of hygiene, to direct all medical care at the university, effective September 1. He succeeds Dr. ARLIE VERNON BOCK, who retired this year.

A grant of $57,398 from the National Foundation for Infantile Paralysis will be used to continue studies toward helping polio patients with breathing difficulties. Dr. JAMES L. WHITTENBERGER, professor of physiology at the school of public health, will direct the study.

Jefferson

A bequest of more than $5 million for blood research was announced

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TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

recently, the gift of the late THOMAS DRAKE MARTINEZ CARDEZA, a Philadelphia art collector, explorer and banker. Mr. Cardeza's entire estate was willed to the college, with the exception of three minor bequests.

The will directed that the money be used for research by the division of hematology and that a trust, to be known as the Charlotte Drake Cardeza Foundation, be established in memory of his mother. Mr. Cardeza also specified that the foundation was to be flexible so that, in the future, it might be available for other types of medical study.

Dr. LEANDRO M. TOCANTINS, professor of clinical and experimental medicine, has been appointed director of the foundation. He succeeds Dr. HAROLD W. JONES, professor of clinical medicine.

The Alumni Annual Giving Fund has reported a total of $110,000 given by 3,252 graduates of the college during this academic year for the support of pre-clinical teaching salaries. Over $640,000 has been contributed by alumni in the past six years for similar purposes.

Marquette

An electron microscope, valued at approximately $25,000, will be the gift of the Milwaukee Braves baseball club to the school of medicine. LOUIS R. PERINI, Braves president, chose the microscope as a memorial to the late J. A. QUINN, father of JOHN J. QUINN, vice president and general manager of the ball club. The microscope will be installed in about seven months.

Medical Evangelists

The National Heart Institute of the Public Health Service has granted $10,000 to the department of internal medicine for the study of serum lipo proteins by paper electrophoresis. The institute will provide funds for four additional years of study.

Renewal of the contract from the U. S. Army for the basic biological study of the snail *oncomelania* has been received by the department of parasitology of the school of tropical and preventive medicine in the amount of $13,750. The extension of funds for Dr. EDWARD WAGNER'S project for the fiscal year ending September 30, 1955, brings the total to date for snail study to $44,343.

Michigan

Construction is now under way on a medical library, provided for by a $600,000 gift of the S. S. Kresge Foundation. This building will be an integral part of the Kresge Medical Research Building which was dedicated in May.

Miami

As of August 1, Dr. HOMER F. MARSH has become dean of the medical school. The former dean, Dr. R. I. SPICER, has resigned. Dr. Marsh was formerly assistant dean at the University of Oklahoma School of Medicine, and has been serving as acting dean at Miami for the past two years.

Minnesota

In honor of 25 years of service, Dr. IRVINE MCQUARRIE, head of the department of pediatrics, will be honored at a pediatrics grand reunion on September 23-25. A McQuarrie Pediatrics Fund has been established with a goal of $50,000, to provide a lectureship in pediatrics, a scientific travel fund for pediatrics staff members and equipment needed by the department.

State U. of N. Y.

Dr. HOWARD POTTER has been appointed acting dean of the college of medicine in Brooklyn. Dr. Potter was formerly professor and chairman of the department of psychiatry and director of psychiatric services at the Kings County Hospital.

This appointment permits Dr. JEAN A. CURRAN, who has been dean of the college for 17 years, to assume his new post as associate executive dean for medical education.

THE 277-BED, $6 million University of Oregon Medical School Hospital, scheduled for completion in 1956, is shown in a recent photo. The new hospital will be connected to the outpatient clinic building by an overhead ramp and a tunnel.

Northwestern

Dr. HARVEY S. ALLEN, associate professor of surgery in the medical school, has received a Fulbright grant to lecture from January to March 1955 in Copenhagen, Denmark. He will lecture on hand surgery at the Society and Home for Cripples.

Oregon

Sir HENRY HALLET DALE, 1936 Nobel prize winner, visited the medical school recently and spoke before a luncheon meeting in the pharmacology department.

The third-place Hektoen bronze medal for exhibits of original investigations at the American Medical Association meeting was awarded to a medical school research team from the dermatology division. The exhibit illustrated with diagrams and pictures the research work being done on the melanocyte-stimulating hormone. The group consisted of Dr. THOMAS B. FITZPATRICK, professor and head of the division, Dr. AARON B. LERNER, associate professor, Dr. HOWARD S. MASON, research associate and associate professor of biochemistry and Dr. KAZUO SHIZUME, research associate.

A 50-channel cathode-ray oscilloscope recently was installed at the medical school. The machine will be used in a study of the auditory cortex of the brain.

Dr. D. W. E. BAIRD, dean, has announced that for the first time the medical school received more than $1 million in gifts, grants and income from endowments during the biennium which ended June 30, 1954.

Recent gifts and grants include $25,697 from the National Fund for Medical Education in support of the instructional program; $16,992 from the Public Health Service to aid the neurology teaching program under the supervision of Dr. ROY L. SWANK, professor and head of the neurology division; $4,950 from the Life Insurance Medical Research Fund for research being conducted by Dr. WILLIAM D. BLAKE, associate professor of physiology, and $3,082 from the Oregon Heart Association to further studies and purchase equipment in the departments of physiology, anatomy and medicine.

Pennsylvania

Dr. GEORGE MORRIS PIERSOL has been appointed dean of the graduate school of medicine. Dr. Piersol succeeded Dr. AIMS C. MCGUINNESS, who will be clinical consultant for the new memorial hospitals being built by the United Mine Workers Welfare and Retirement Fund. At the present time, Dr. Piersol is director of the departments of physical medicine and rehabilitation in University Hospital, professor of medicine in the graduate school, and professor of physical medicine and rehabilitation in the school of medicine.

Puerto Rico

Recent awards and grants include the following: (1) a grant of $25,000 to be matched with an equal grant from the university for the expansion of the school of medicine library over the next three years; (2) a contract from the Institute of Inter-American Affairs of the Foreign Operations Administration for three years for the training of Latin-American public health workers and providing $100,000 in the current fiscal year; (3) an award to the department of health of the commonwealth of $63,500 from the Rockefeller Foundation for a study in regionalization of the health and medical services in the Bayamon district, and (4) the culmination of a grant of $25,000 from the National Cancer Institute for the coordination of cancer teaching to undergraduate medical students. Dr. LYNDON E. LEE is cancer coordinator.

Southern California

A $30,000 student loan fund has been presented to the school of medicine by the K. Arakelian Foundation of Fresno, Calif. The fund will be available to medical students who need financial assistance and the repayment of loans will make the fund self-perpetuating.

Temple

Dr. THOMAS HINDLE has been appointed assistant dean of the medical school. He is a graduate of the class of 1953 of the medical school and recently completed his internship at the university hospital.

Tennessee

Dr. THOMAS D. MOORE has retired as head of the department of urology at the college of medicine. He will continue as professor of urology. Dr. HARRY C. SCHMEISSER has retired after 33 years as professor of pathology. He has been appointed professor emeritus of pathology and consultant to the Memphis city hospitals.

Dr. PHIL C. SCHREIER has been named professor and chief of the division of obstetrics and gynecology at the college of medicine. Dr. Schreier had been acting chief of the division since October 1953, when Dr. FRANK E. WHITACRE resigned to join the staff of Vanderbilt University College of Medicine.

Specialized equipment to be used on newborn babies and small children will be purchased as a memorial to the late Dr. JACOB A. DANCIGER, assistant professor of pediatrics.

Dr. SAMUEL L. RAINES, formerly assistant professor, has been named professor and head of the department of urological surgery. Dr. R. R. OVERMAN, professor of clinical physiology and director of the section of clinical physiology, has been awarded research grants totaling $67,749 from a number of sources, including the Memphis Maternal Welfare League, the university and the city of Memphis and the Atomic Energy Commission. The grants will be used to provide equipment and nursing care for an eight-bed metabolic unit in the John Gaston Maternity Hospital, and the atomic energy grant to study the effects of radiation on the entire body.

Dr. I. FRANK TULLIS has been appointed to succeed the late Dr. CONLEY HALL SANFORD as professor of medicine and chief of the division of medicine at the college of medicine. Dr. NICHOLAS GOTTEN, associate professor of neurology and psychiatry at the college of medicine, has been advanced to professor.

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Dr. A. PACKCHANIAN, professor of bacteriology and parasitology and director of the laboratory of microbiology at the school of medicine, left recently for Africa to study the chemotherapy of African sleeping sickness. Most of his investigations will be conducted in the Belgian Congo, Nigeria and Uganda.

On his return trip he will stop briefly in Egypt to study amoebiasis, in Arabia to collect data on yaws, and in Iran and Lebanon to make a brief survey of leishmaniasis. Dr. Packchanian will visit various universities and research institutes in Greece, Italy, Germany, Switzerland, Sweden, Norway, Denmark, England, Holland, France and Belgium.

Washington University

Dr. E. V. COWDRY, research professor of anatomy and director of Wernse Cancer Research Laboratory, visited Tel Aviv, Israel, recently to discuss cancer research in that country at the invitation of Israel's minister of health, Dr. B. NEUMANN.

Yale

Dr. CHARLES O. BECHTOL has been appointed associate professor of orthopedic surgery. He was formerly assistant clinical professor of orthopedic surgery at the University of California Medical School. Dr. Bechtol will serve as orthopedist-in-chief at the Grace-New Haven Community Hospital.

Alberta

Dr. DONALD R. WILSON, associate professor of medicine, has been promoted to professor and head of the department of medicine, effective September 1. He also succeeds Dr. J. W. SCOTT as director of medical services in the University Hospital. Dr. Scott will continue as dean of the faculty of medicine.

Queens Centennial

Queens Medical College in Kingston, Ont., is celebrating its centennial

this year, the fourth of Canada's 15 medical schools to reach the century mark.

The university was founded in 1841, under a charter signed by Queen Victoria, but the medical college was not opened until 1854. The faculty now consists of 38 full-time and 138 part-time teachers of medicine and the medical sciences. A six-year course leads to the degree of M.D., C.M. Graduate courses are also offered.

Louisiana

The Billings Gold Medal was presented to a school of medicine group during the American Medical Association meeting in June. Dr. EMMA S. MOSS, clinical professor of pathology, Dr. ALBERT L. MCQUOWN, clinical assistant professor of pathology, and ROBERT S. COOKE, assistant, received the award for their exhibit on fungus diseases.

The department of physiology has begun to teach certain parts of experimental physiology by closed circuit television demonstrations. Nervous control of the heart, arrhythmias, hemorrhage and transfusion, intracranial pressure and factors that control arterial pressure have been televised. In one telecast, the experimental surgical technique that would be used later by the students was stressed.

In the August issue, Dr. ERNEST BUEDING was incorrectly identified as the new head of the department of pathology at the university. Dr. Bueding will head the department of pharmacology and Dr. RUSSELL L. HOLMAN continues as head of the department of pathology.

Audiovisual News

AV Coordinators Meet

The first conference of medical school audiovisual coordinators was held August 3 in Chicago, at the time of the National Audio-Visual Trade Show. Coordinators from representative schools in the midwest attended a one-day conference, initiating a deliberate effort on the part of medical schools to tackle common problems in the administration and use of audiovisual materials.

Trends Noted: Medical educators are becoming increasingly aware of the need for handling AV materials more intelligently and effectively. In confirmation of the group opinion, Tom S. Jones, emeritus director of medical and dental illustration, University of Illinois College of Medicine, said, "In my 50 years I have seen these trends shaping up and I am convinced of the fact that we are going to be more concerned with the methods of education — the art of communication."

Among the reasons cited for making AV materials an integral part of education is the ever-increasing amount and *kind* of subject matter required by the four-year medical student, which cannot be taught with complete effectiveness with the means used 50 years ago. Teachers are seeking and should expect help. The job of the audiovisual coordinator is to cooperate with the faculty to make the trend more valuable to medical education.

Frank Shook, director of medical illustration, University of Louisville School of Medicine, discussed the general trend at Louisville. AV materials are considered necessary at the school and they hope to make better use of materials by: (1) a more extensive use of materials, (2) integrating materials with the teaching program, (3) a central filing system, (4) better cooperation between the AV coordinator and the teacher and (5) prompter service.

MIDWEST AV Coordinators, shown at their August 3 meeting in Chicago were: (left) Leo Massopust, Marquette; Dr. David S. Ruhe, Kansas; Donald A. R. Moffatt, Canada; Dr. Leo L. Leveridge, Pfizer Laboratories; Audrey M. Skaife, AAMC; Albert Levin, Pittsburgh; Thomas S. Jones, Illinois; Dr. Dean F. Smiley, AAMC secretary; Frank Shook, Louisville; Dr. J. Edwin Foster, MAVI director.

Effective Use: The satisfactory use of AV materials demands that they become an integral part of the curriculum. Harold Hailer, supervisor of on-campus service, bureau of audio-visual instruction, University of Wisconsin, pointed out that in all professional schools the integrated utilization of materials demanded proper selection, wise use at the right time and adequate evaluation. AV materials will never be better than the teachers that use them. The inexperienced user of materials in particular is apt to do more harm than good with them.

Discussing the means by which the medical school teacher might integrate the use of materials to increase his effectiveness, the group felt that the staff conference was important. Interested teachers in each school should take part in a round-table conference at least once a year to discuss the problem of the proper integration of materials. The problem of "fitting-in" is particularly significant now with the general concern with total curriculum rebuilding and integration. Teachers should be careful in the selection of materials used and expect the cooperation of their AV coordinators in learning about and previewing materials in the shortest possible time.

Convenience: Leo C. Massopust Sr., director of the department of art and photography, Marquette University School of Medicine, reported that their planning is aimed toward making use of all AV materials, from an oil painting to a film, as convenient as possible for the staff. Equipment, materials and projectionists are supplied with the minimum of time and trouble to the user. Thus a centralized service department has developed which can provide better services less expensively. A wide range of up-to-date and well-repaired equipment is available at all times. The ordering of materials is routinized and a new, reliable student projectionist is trained in each freshman class.

In colleges where strong autonomous departments prevail or where private funds have been used to purchase materials and equipment, such centralization of equipment is difficult, but information remains an important item.

Caution Necessary: High costs, programing difficulties and rapid technical changes emphasize the need for extreme care and study before embarking on a closed circuit television set-up in the medical school. In summarizing the TV developments, Dr. David S. Ruhe, director of audio-visual education, University of Kansas Medical Center, said that an adequate camera chain in a medical school would call for an initial investment of approximately $100,000. The caution demanded does not mean that the problem should be neglected.

Medical school faculties will contribute more and more to programing over commercial channels, as reported by Dr. Kenneth MacDonald, associate professor, department of hygiene and preventive medicine, State University of Iowa College of Medicine. This rapidly developing thirst for the assistance of medical faculty in TV programing will force more and more medical schools into the TV picture either directly or indirectly. It was recommended that AV coordinators seek some of the TV kinescopes available from sources such as the University of Utah School of Medicine and the American Cancer Society.

Windows Are Obsolete: The basic design of the classroom hasn't changed in years unless it has been the addition of more windows. Mr. Jones reported on some of his own studies and research being done by others which indicates that modern lighting and light control have advanced so far that windows are not needed. The room coloring, blackboard arrangement and construction, and exhibit facilities are generally inadequate and the museums require better architectural consideration.

Central Film Library: The conference confirmed the need of a central library of teaching films for the medical school. Film sources are so varied

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—ROGERS, H.L.: Ann. Allergy 12:266 (May-June) 1954.

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—GREEN, M.A.: Ann. Allergy 12:273 (May-June) 1954.

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—MULLIGAN, R.M.: J. Allergy 25:358 (July) 1954.

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and scattered that selection and procurement is very difficult. Such a library selected for the use of medical colleges should be supported by all the colleges.

Preview Circuits Endorsed: Albert Levin, director of the medical illustration laboratory, University of Pittsburgh School of Medicine, reported that the preview circuits provided an excellent means for bringing staff members together for the consideration of specific materials which might contribute to medical education. It was recommended that the preview circuits be continued if possible.

Buyers Guide

The names, addresses and new products of 129 producers of audio-visual equipment and materials, has been gathered into a volume now in the files of the medical school AV coordinators. This guide briefly describes the products featured at the 1954 Trade Show of the National Audio-Visual Association. A trade directory of dealers who sell AV equipment and materials in each city and state is also in the hands of AV coordinators.

Projection News

A notable trend in projection equipment shown this year at the trade show was the development of better screens, better lens and better light sources. All equipment was demonstrated under full light with no noticeable loss in definition and with considerable comfort to the viewer. There is virtually no equipment on the market now which requires complete blackout and there is evidence that developments underway will make full daylight projection possible in the near future. Further improvements in the reflective quality of so-called "daylight" screens are being shown, and Bell and Howell demonstrated an experimental Xenon gas projection lamp which produced a light intensity eight times that of the present 1000-watt incandescent lamp and considerably higher than the present arc projector. Westinghouse Electric Corp. is also developing the Xenon gas lamp for varied projection purposes.

Recruiting Film

"Career: Medical Technologists," a 22-minute sound film designed to interest young people in this field is being previewed this month at the first American meeting of the International Society of Clinical Pathology.

The American Cancer Society absorbed production costs and a simultaneous grant from the National Cancer Institute of the Public Health Service will make possible the purchase of prints for wide distribution. It is now available from the National Committee for Careers in Medical Technology, Washington, D. C.

MAVI's Role

In greeting the Midwest Medical AV Coordinators at their recent conference, Dr. Dean F. Smiley spoke of the increased emphasis of the Medical Audio-Visual Institute on the problems of utilization and distribution. The first six years of MAVI's life saw a tremendous amount of work done by Dr. David Ruhe and members of the Institute staff in reviewing and evaluating hundreds of films. Studies also were made to determine what type of film production would achieve what the medical schools really want. The short, specific teaching film has been developed and shown to have a particular usefulness in the classroom.

Dr. Smiley said that the Executive Council of the AAMC had decided that, because of the high costs in money and time, film production would be discontinued at least temporarily.

Summaries of Film Reviews

Cardiac Resuscitation

29 min., si., color, 16 mm., 1954.

After titles concerning cardiac arrest, its frequency, predisposing factors, prophylaxis and principles of resuscitation,

a cardiac emergency kit and defibrillator are demonstrated: asphyxia produces cardiac standstill after six minutes. After intraventricular epinephrine administration, cardiac compression is instituted until the heart returns to normal. Ventricular fibrillation is produced by multiple shocks, is stopped by heavier defibrillator shocks, normal compression is begun and the heart returns to normal rhythm. The steps in the operative approach to resuscitation are carried out on a cadaver; cardiac compression is demonstrated with bimanual and one-handed methods. Titles supply a summary.

This orientation film presents resuscitation following cardiac arrest in broad and generally acceptable terms according to current concepts of etiology and management. However, the routine immediate use of epinephrine with hypoxic arrest is controversial at the best and some fear it may itself cause fibrillation. Presentational aspects are acceptable, but the film suffers from the handicap of being silent, with laborious titles, lack of opticals and little true visual flow.

This film is essentially a personal instrument, but should be useful to many who teach the management of cardiac arrest. Students will perhaps gain the principal lessons of the film without, however, achieving the sense of emergency which is found in the Owens-Swan film entitled "Cardiac Arrest".—*D.S.R. with KUMC Panel, 1954.*

Audience: Students of anesthesiology and surgery.

Production Data: Authors: Frank Gerbode, M.D., Russel Lee, M.D., Walter Goggans, M.D., Stanford University School of Medicine; **Photography:** Don Flagg.

Distribution: The authors, department of surgery, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15, Calif., **Loan.**

First Aid for Burns in Civil Defense

19 min., sd., b&w., 16 mm., 1951.

An introduction compares everyday fires with an atomic blast holocaust and suggests the types of places where volunteer first aid workers will be active in handling casualties. Three basic rules are emphasized: relieve pain, prevent infection, give first aid for shock. In simulated field action at an aid station a doctor demonstrates dressing and bandaging of burns of progressive severity and of varied sites, pointing out those which are to be done only by physicians if possible. Dressing burns at home, feeding and managing for shock are simulated. Concluding pictures of burns at the time of injury and after healing permit a reiteration of principles.

This illustrated lecture on first aid for burns follows the 1951-approved practices in burn management, including the once-advocated salt and soda fluid administration. Production skills are good enough, but the single modified set is irritating, and the lecture format tends to create a hashy and repetitive visual impact despite a good content organization. The actors' performances give very little impression of the urgent reality of burns in disaster, and the materials shown do not suggest the urgent improvisations of a large-scale emergency.

The relationships of doctors and aiders will be understood, and the principles and practices of burn handling will be absorbed by first aiders from this film. Ample introduction and discussion by a competent instructor will be necessary to account for changes in knowledge and official recommendations, and for the many procedural and factual questions which may arise. The film will be a helpful introduction to practice sessions on burn dressing and bandaging.—*D.S.R. and G.V.B., for MEND Program, February 1954.*

Audience: Students of first aid.

Reference: Civil Defense Supplement to the American Red Cross First Aid Text Book.

Production Data: Sponsor: American Red Cross, Washington, D. C.; **Producer:** William J. Ganz Company, New York; **Technical Advice:** Subcommittee for Burns, Committee on Surgery, National Research Council.

Distribution: Regional American Red Cross offices, **Loan.**

Book Reviews

Wonders of Modern Medicine

Steven M. Spencer. McGraw-Hill Book Co., Inc., New York, 1953. $4.

The 20 chapters in this presentation deal with the 20 most important public health problems which have been greatly spotlighted by modern advances in medical science and the advances in preventive medicine.

The author has given an excellent historical as well as social welfare presentation of the present day problems of health. The book is appealing not only to the general public, who read chapters of it in the *Saturday Evening Post*, but is excellent for interesting lay and professional groups in the historical progress of medicine.

Many of the chapters, such as the gamma globulin story, of course, bring out the sensationalism of medicine which time alone can test and change.

It is a well-written book and should be read by all age groups, beginning with the high school science student. It should help to stimulate interest in the potentialities of research and the benefits to be derived by all.

E. A. Piszczek, *Stritch*

Textbook of Physiology and Biochemistry

George H. Bell, J. Norman Davidson and **Harold Scarborough.** E. & S. Livingstone, Ltd., London, 1953. 959 pp. with index. $10.

The authors recognize in their introduction that the difficulties of writing an integrated text in physiology and biochemistry "increase as the power of the number of authors."

The writers, a physiologist, a biochemist and a clinician, have achieved, however, a very good integration and have given a balanced presentation of the knowledge which should be mastered by the beginner. "This book is designed to lay a sure foundation for the medical undergraduate."

The organization of the materials of this text is as follows: the chemical composition of living matter and the food we eat; the processes of ingestion and digestion; bodily systems; the sense organs and the nervous system. On the surface this appears to be par, for this is what all physiological texts cover. However, this book does something which most physiological texts fail to do—it demonstrates again and again that the working of the body cannot be comprehended in terms of the function of isolated parts. For example, in describing the heart, the authors discuss the influence of peripheral blood vessels, the central nervous system, respiration and the chemical changes occurring in cardiac muscle.

While the book is of greatest value to medical students, it should be useful to students studying dentistry, veterinary science and pharmacy, as well as those majoring in physiology and biochemistry. It is useful also as a comprehensive integrative text for students who will not major in biology, but who need a biological background, e.g., students of human development, psychology and home economics.

This book manifests the superb abilities of the British scientists in writing well, and in organizing and integrating masses of complete data. This book would seem to be the best introductory book in physiology now available.

R.A.D.

Textbook of Biochemistry, 6th edition

Benjamin Harrow and Abraham Mazur. W. B. Saunders Co., Philadelphia, 1954. 563 pp. with index. $6.50.

This text now in the sixth edition has been thoroughly revised. The present edition is exceptionally well-done, filled with excellent diagrams and figures and covering in an up-to-date fashion the basic material for a first course in biochemistry.

Since this book has undergone many revisions and has had to stand the trial and error experimentation of a widely used teaching aid, one would expect a worthwhile presentation of the material. This expectation is completely satisfied and the book is, in the reviewer's opinion, a great improvement on

most currently available biochemistry texts.

The references, handled by an annotated bibliography, are of particular value. They should ease the work of the instructor, but more important they should stimulate students to do further reading.

The text starts with a description of the cell (carbohydrates, lipids, proteins and nucleic acids). Enzymes and their biochemical actions then precede a discussion of the digestion and the absorption of food. This is followed by an analysis of blood and respiration which serves, in turn, as an introduction to intermediary metabolism. Recent research in the latter has been particularly fruitful. Specialized topics covered in the last third of the book are energy metabolism, inorganic metabolism, foods, vitamins, tissues, the kidney, hormones, detoxicating mechanisms, immunology and therapeutics.

The book is a practical approach to biochemistry. Some teachers may desire a more elaborate discussion of certain topics rudimentary to the general field of chemistry per se, particularly in physical chemistry. Any deficiencies along this line are, however, compensated for by the excellent annotated bibliography.

R.A.D.

Pharmacologic Principles of Medical Practice, 3rd edition

John C. Krantz Jr. and **C. Jelleff Carr.** The Williams and Wilkins Company, Baltimore, 1954, 1149 pp. with index. $12.

This third edition has the same general arrangement of the subject matter as the first and second editions. It is, however, an improvement on the other two and is somewhat longer. The newer drugs have been included and recent work receives due attention and its assimilation is complete.

One new chapter on miscellaneous therapeutic aids has been added. Appropriately, information on drugs which have grown into disuse has been deleted. The chapters on rickettsial diseases and the origin of new drugs have been removed but the essential information is given elsewhere in the textbook.

As in the second edition, the presentation is generally lucid and informal. The printing is clear and easily read, and the diagrams and graphs, many of which are new, are well set out and understandable. Many references appear as part of the main body but they do not hamper smooth reading; quite a number of them are not found in the reference lists at the end of the chapters. Therefore, it may be assumed that they can be found in any standard medical index!

It is interesting to find that most chapters are not encumbered with masses of conflicting data, yet are not marked with dogmatic opinions or statements. One of the most interesting chapters near the beginning of the book discusses, in a short but pertinent manner, the response of cells to drugs.

The book makes a good attempt at bridging the gap between bedside and desk and if its principles are practiced, duties at the bedside will be more enjoyable and rewarding.

R. J. Cazort, *Meharry*

Clinical Psychiatry

Ian Skottowe, M.D. McGraw-Hill Book Co., Inc., New York, 1954. 382 pp. with index. $8.75.

The principles of clinical psychiatry and descriptions of major psychiatric disorders are presented in this book. The book achieves sufficient breadth and depth to be useful to the student and to the nonpsychiatrist physician. Clinical descriptions of the major psychiatric disorders are given which cover etiology, symptoms, somatic findings, differential diagnosis, prognosis and treatment.

In one respect the book may be found narrow. The author at times fails to point out alternative possibilities. For example, he is more prone to prescribe electric convulsive treatment than some psychiatrists, but does not inform his reader that there is some variance of opinion among psychiatrists.

S.C.

Pharmacology and Therapeutics, 2nd edition

Arthur Grollman. Lea & Febiger, Philadelphia, 1954. 127 illustrations. $10.

This new revision of Dr. Grollman's text includes the significant advances that have been made in the study of drugs and the development of new therapeutic agents. The outline is essentially the same as for the first edition; the chief changes include the addition of a chapter on diuretics and a more inclusive treatise on antibiotics.

Discussion of the mechanism of drugs action remains inadequate. Only five paragraphs are devoted to a general

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1. Russek, H. I.; Urbach, K. F.; Doerner, A. A., and Zohman, B. L.: J.A.M.A. *153*:207 (Sept. 19) 1953.
2. Humphreys, P., *et al.*: Angiology *3*:1 (Feb.) 1952.
3. Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952.

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consideration of the theories of pharmacological action and three paragraphs to the relation of chemical constitution to pharmacological action.

In general the discussions of therapeutic uses are adequate. At the end of each chapter there continues to be an inclusive list of available preparations giving usual dosages and mode of administration. Preparations official in the British Pharmacopea are also listed. The student and practitioner will continue to find this text a valuable source of information.

Lloyd D. Seager, *Arkansas*

Surgical Urology

R. H. Flocks and **David Culp.** The Year Book Publishers, Inc., Chicago, 1954. 382 pp. with index. $9.75.

This is an excellent atlas of urologic surgery compressed into a minimum of space. The book has been thoughtfully planned with the drawings on the right hand pages and the accompanying explanatory text on the left hand. There are 118 full page plates, most of which contain two to five drawings.

There are short additional sections on anatomy and physiology at the beginning of each section. The drawings are excellent and show careful cooperation of the surgeon and artist. The explanations are concise and clear, although necessarily many details have had to be omitted. This is a wonderful book for the urology resident and also for review by the intern or student clerk who is preparing to assist at a new operation which he has perhaps never seen before. It is a good review as well for the urologic surgeon, although hardly detailed enough in many instances for the surgeon who has primary responsibility for the operation. The book is quite up to date, very recent techniques are included.

All in all the book can be recommended very highly as a textbook for urologic surgical technique and should be available in every hospital library for reference by the house staff.

Joseph H. Kiefer, *Illinois*

Practical Fluid Therapy in Pediatrics

Fontaine S. Hill, M.D. W. B. Saunders Co., Philadelphia, 1954. 261 pp. with index.

This monograph on fluid therapy in pediatrics is divided into three parts: first, a section on the basic physiologic principles; second, a section on diagnosis and treatment of clinical conditions and third, a section of technical procedures.

It is further subdivided into sections dealing with specific problems and each major problem in fluid and electrolyte disturbance in the field of pediatrics is covered. There is a sound and adequate bibliography though the text itself is not cluttered with references to sources.

The terminology throughout the book is simplified and has been amplified by a glossary of the terms used. The individual who is an expert in the field of fluid and electrolyte metabolism would probably find the book far from satisfactory in that it tends to be didactic and to make generalizations which are probably not always justifiable. On the other hand the individuals who must meet the problems of practical fluid therapy in pediatric practice without an extensive background in the modern physiology and biochemistry of fluid and electrolyte balances will obtain from a review of this book a basic understanding of the problems and practical suggestions as to how individual problems in fluid therapy are to be met.

It is certain that this book will fill a long-felt need in the library of the pediatrician.

J. C. Peterson, *Marquette*

Books and Pamphlets Received

(As space permits, those with the greatest interest to our readers will be reviewed)

Aids to Histology, 6th edition

Geoffrey H. Bourne. Tindall and Cox, London, 1954. 154 pp. with index. $2.

Elements of Surgical Diagnosis, 10th edition

Pearce Gould. Revised by **Sir Cecil Wakely,** Bt. Paul B. Hoeber, Inc. Medical Book Dept. of Harper & Brothers, London, 1954. 556 pp. with index. $7.50.

Lectures on General Pathology

Delivered at the Sir William Dunn School of Pathology, University of Oxford. Edited by **Sir Howard Florey.** W. B. Saunders Co., London, 1954. 711 pp. with index.

Medical Uses of Cortisone

Edited by **Francis D. W. Lukens.** The Blakiston Co., Inc., New York, 1954. 518 pp. with index. $7.50.

Biochemistry and Human Metabolism, 2nd edition

Burnham S. Walker, William C. Boyd and **Isaac Asimov.** The Williams and Wilkins Co., Baltimore, 1954. 860 pp. with index. $10.

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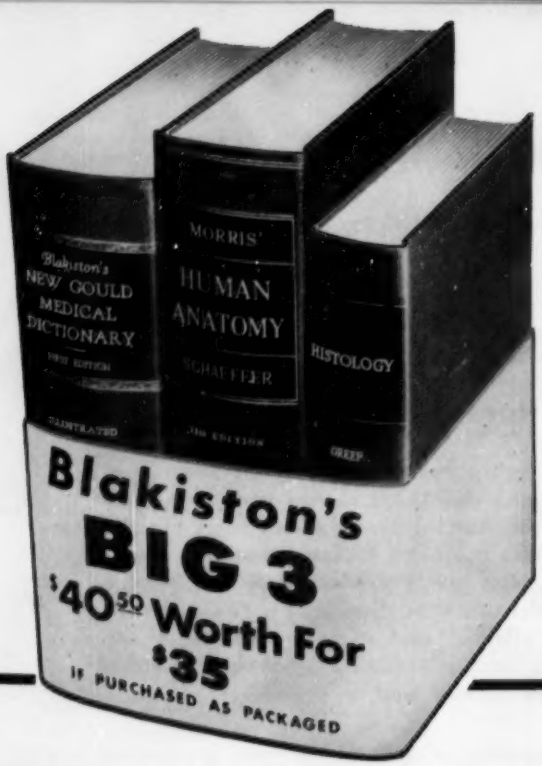

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The Personnel Exchange

Faculty Vacancies

• TEN TEACHING POSITIONS are open at the University of Kabul Faculty of Medicine, Kabul, Afghanistan. They are internal medicine, external pathology (surgery), clinical surgery, neuropsychiatry, dermatology, otorhinolaryngology, ophthalmology, radiology, pharmacology and histology. Candidates must be able to teach in either English, French or German. Salary range: $7200 per year for assistant professor, lecturer (U.K.) Dozent (Germany), Agrege (France) or equivalent. $9600 per year for associate professor, reader (U.K.) Ao professor (Germany) or equivalent, $12,000 per year for professor or Ord professor (Germany) or equivalent.

Salaries are payable 70 per cent in dollars and 30 per cent in local currency at official rate of exchange. Contract period is three years, and may be extended by mutual agreement. Transportation is provided to and from Afghanistan for candidates selected but not for dependents. Teaching and clinical facilities exist in the Aliabad hospital, attached to the faculty as a university medical center. In addition to teaching duties, teachers will be assigned medical responsibilities in the university medical centers. Address: Dr. Mohammed Anas Khan, rector, University of Kabul, Kabul, Afghanistan.

• THE BOWMAN Gray School of Medicine offers a one-year fellowship in PREVENTIVE MEDICINE. Opportunities for teaching in internal medicine and preventive medicine, for furthering training in internal medicine, and for individual research in one of several fields. Applicant should have at least two years of postgraduate training, one of which should be internal medicine. Salary $4500 married, $4200 single. Address: V-20.

• CHILD PSYCHIATRIST: Joint appointment in department of pediatrics and psychiatry. Ample opportunities for research and teaching. Rank and salary depend upon qualifications. Staff and service of department will be expanded considerably in near future. Write to Dr. Reynold A. Jensen, office of the medical director, University of Minnesota, University of Minnesota Hospitals, Minneapolis, Minn.

• RESEARCH DIRECTOR: To develop an active research program for the Saratoga Spa at Saratoga Springs, N. Y. Ph.D. with experience in physiology. Knowledge of biochemistry also useful. Permanent New York State Civil Service position (G-27 with salary of $6,562-7,992). Possible appointment to teaching staff of Albany Medical College. Write: Dr. Frank W. Reynolds, Medical Director.

• PHARMACOLOGY: The University of Alberta invites applications for the position of associate professor of pharmacology, in the department of physiology and pharmacology, effective September 1, 1954, at a salary within the range of $5,250-6,250 per annum (not including cost-of-living bonus now approximatly $300), depending on qualifications. Duties include lecture and laboratory courses for medical and dental students and a program of research work. Applications should include a recent photograph or snapshot, a curriculum vitae, and three references. Address: Dean of Medicine, University of Alberta, Edmonton, Alberta, Can.

• BACTERIOLOGY: Applications are invited for position, department of bacteriology, Hebrew University-Hadassah Medical School, Jerusalem, Israel. Duties to commence October 1, 1954. Position vacancy in grade instructor, assistant or associate professor depending on qualifications. For further information write Dr. Joseph Hirsh, Executive Secretary, Medical Advisory Board, 9 East 89th St., New York 28, N. Y.

• OPHTHALMOLOGIST: Full-time teaching and research faculty appointment. Excellent research and clinical facilities. Rank and salary depend upon qualifications. Address: V-19.

• CLINICAL ISOTOPE RESEARCH: Internist or other qualified physician desiring career in research and teaching. Staff position with unusual opportunities to use isotope techniques. Clinical and laboratory facilities for independent and group research. University affiliation. Address: Dr. Marshall Brucer, Oak Ridge Institute of Nuclear Studies, Box 117, Oak Ridge, Tenn.

• TOXICOLOGIST OR PHARMACOLOGIST: Graduate school of public health in large university has a staff opening for a toxicologist or pharmacologist. Department with a broad interest in a new, expanding field of industrial chemicals is seeking a person to carry on toxicological studies and offers opportunity for fundamental research on mechanisms of toxicity. Recent graduates considered. Some graduate teaching if desired. Address: Box V-24.

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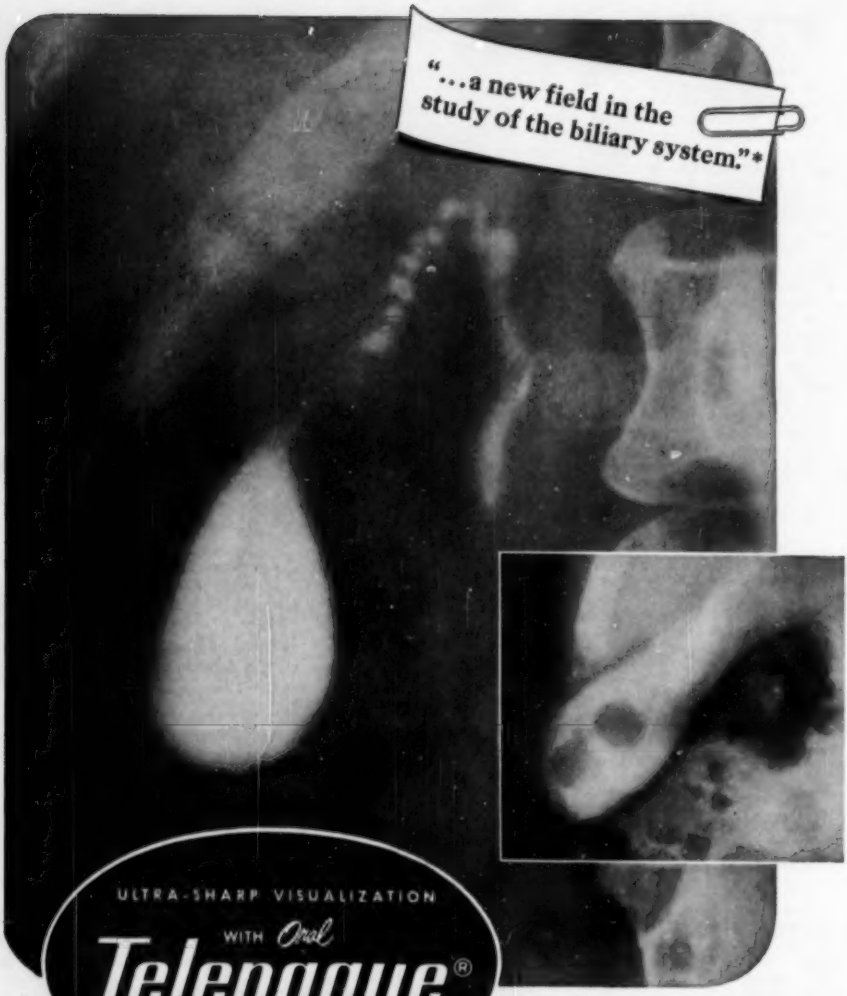

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* Shehadi, W. H.: *Am. Jour. Roentgenol.*, 68:360, Sept., 1952

To aid in solution of the problem of faculty vacancies, MEDICAL EDUCATION will list persons and positions available, as a free service. The school department or person may have the option of being identified in these columns or of being assigned a key number for each position listed. Mail addressed to key numbers will be forwarded to the person or department listing the request.

Information for these columns should reach the Personnel Exchange Editor, 185 N. Wabash Ave., Chicago 1, Ill., not later than the 10th of the month which precedes the month in which the listings will appear.

rinology and metabolic disease in July 1955, while one of the faculty completes his armed service requirements. It is interested in securing a highly qualified man to fill this vacancy during the one or two years leave of absence of the incumbent.

Unfortunately no commitments can be made at this time regarding occupancy of a faculty appointment when the present incumbent returns. Salary, job description and other details will be discussed with any qualified and experienced physician and teacher who inquires about the temporary vacancy. Address: V-23.

Personnel Available

• INTERNIST: Man. Age 42. M.D., Ph.D., F.A.C.P. More than 15 years experience in teaching, research and top-level administrative responsibility. Would like permanent position involving some teaching and/or clinical investigation. Address: A-109.

• PATHOLOGIST: M.D., 43, board certified in pathologic anatomy and clinical pathology. 17 years well-rounded experience in large hospital laboratory, medical school teaching and residency programs. Many scientific publications. Special interests include tropical medicine and hematology. Seeks position in foreign country, preferably in tropics. Address: A-121.

• ANATOMIST: Ph.D. in medical science, major in anatomy, 1954. Married. Age 31. Would like permanent teaching-research position at medical school or research institute. Extensive background in preclinical courses including pathology. 4 years teaching experience as fellow in histology and embryology in medical school. Keen interest in histochemistry and endocrinology. References. Available June 1, 1954. Address: A-110.

• SURGEON: 38, married, veteran. Diplomate of the American Board of Surgery. Training in general surgery with fellowship in tumor surgery. Background of research in biochemistry. Desires teaching position with opportunity for research; U. S. or foreign. Available July 1. Address: A-111.

• ORTHOPEDIC SURGEON: 36; certified; university trained; M.S. (orthopedic surgery) experience in traumatic surgery and rehabilitation of severely disabled. Seeks association with diplomate and university hospital affiliation. Address: A-112.

• PHYSIOLOGIST—MICROBIOLOGIST: Man, Ph.D., 30, veteran. 7 years experience in teaching physiology, microbiology and histology, medical school level. Member of scientific societies. Desires teaching fellowship with opportunity to work for M.D. in return for tuition and stipend. Prefer Canada or U. S. Goal—radiology. Available in fall. Address A-113.

• PHARMACOLOGIST-PHYSIOLOGIST: M.S., Zoology; Ph.D. expected June 1954. Experienced in pharmaceutical research, teaching experience in pharmacy during army service. Desires research and teaching position in physiology and pharmacology. Special interest in endocrinology. Member scientific societies, Sigma Xi. Publications; references. Address: A-114.

• M.D., M.P.H.: Diplomate of Board of Public Health and Preventive Medicine desires to head department of PUBLIC HEALTH and PREVENTIVE MEDICINE in medical school. 14 years varied experience in field combined with teaching at undergraduate and graduate levels. Capable of integrating this subject with rest of medical school curriculum. Address: A-115.

• INTERNIST-CARDIOLOGIST: M.D., 35, family. 7 years of university hospital training, including 4 years in cardiac laboratory. 30 publications. Certified in subspecialty. Now assistant professor of medicine. Seeking change of location. Prefers full-time permanent academic position. Address: A-116.

• ANATOMIST: 28, Ph.D. in anatomy. Desires teaching position at medical, dental or pharmacy school. Will consider teaching gross anatomy, histology, embryology or neuroanatomy. Chief interest is neuroanatomy. Continental U. S. school only. Available now. Address: A-122.

• PHYSIOLOGIST-ENDOCRINOLOGIST: Man, 31, Ph.D. 5 years experience in teaching and research at Harvard University. Seeking full-time academic position. Extensive experience in physiology, general endocrinology, endocrinology of reproduction, human heredity, research methodology, histology and zoological sciences. Will accept administrative duties and responsibilities. Salary secondary to good future. Address A-117.

• HISTOLOGIST-HISTOCHEMIST: Ph.D. Harvard; young man, teaching and research experience. Publications; member of scientific organizations. Interested in obtaining teaching or research position in eastern U. S. Address: A-118.

• LABORATORY SUPERVISOR: Administrative and/or teaching position in medical technology. 10 years supervisory experience. B.S. in bacteriology. Graduate credits in biochemistry, histology and pathology. Laboratory officer, Sanitary Corps, Medical Department, U. S. Army 4 years (captain). Publications; references. Seeks stimulating position, preferably with academic affiliation. Address: A-119.

• SURGEON: 32; American Board of Surgery certified. Married. Interested in academic career; category 4; prefer job with limited

private practice privileges, but will consider any full-time position without private practice allowances. Address: A-120.

• BACTERIOLOGIST: Male, 39, M.Sc., married. 5 years teaching experience in medical bacteriology and general microbiology. 12 years practical and administrative experience in public health laboratories. Desires teaching position with research opportunities or administrative positon in public health laboratory. Presently assistant professor of bacteriology. Available autumn 1954. Address: A-123.

• BIOCHEMIST-RADIOCHEMIST: Ph.D., 1952. Major in physical chemistry, minor in biochemistry. Experience in sterols, organic reacton mechanisms, small animal metabolism and radiocarbon dating. Presently engaged in research on mineral metabolism in man. Publications. Desires teaching or research position in applications of isotopes or physical chemistry to medical problems. Address: A-124.

• INTERNIST: M.D., practicing physician, consultant in medicine and encrocrinology, interested in university position developing research study to determine the potential of measuring taste as it adapts to and reflects immediate physiologic and nutritional needs. Hospital and medical school teaching experience. Certified Am. Bd. of Internal Medicine; Am. Coll. Physicians. Address: A-125.

• BIOCHEMIST: Biochemistry-Internal medicine Ph.D., M.D., 40. Interested in medical school appointment for teaching and research. Experience in teaching, research and private practice. Particularly interested in clinical correlation of basic sciences. Address: A-126.

• PHYSIOLOGIST: Ph.D., male, 37, family. Experience in research and teaching mammalian physiology. Research emphasis in neurophysiology and visual physiology. Experienced in using electrophysiological techniques. Acquainted with problems and techniques of electromyography, especially as applied to human studies. Publications. References. Desires opportunity for research with or without teaching responsibilities. Available. Address: A-127.

• PHYSIOLOGIST: Ph.D., 35, married. Presently associate professor of medical physiology in large medical school. Fifteen years experience in teaching and research, the last seven in medical schools. Many publications in fields of nutrition, respiration, endocrinology, steroids, radioisotopes. Experienced in organization, administration, teaching. Considerable clinical experience. Will consider any location. Salary above $7000. Address: A-129.

• PHYSIOLOGIST: M.D., Ph.D., 35, family. Training requirements for boards in internal medicine completed. Teaching and research experience. Army service will be terminated end of 1954. Desires full-time academic position where basic science and clinical interests in teaching and research may be fulfilled. Address: A-128.

• PHYSIOLOGIST: Ph.D., 38, broad biological training. Wide experience in teaching and research. Desires teaching position in Chicago area with opportunity for research. Available September 1. Interest and experience in connective tissue permeability and biological effects of x-rays. Married. Address: A-130.

• PHYSICAL CHEMIST—BIOCHEMIST: Woman, single, 30. Ph.D., 1949. Major in physical chemistry, minor in biochemistry. Two years experience in clinical research on total body water and kinetics of water transfer. Desires teaching with some research. Publications, references. Address: A-131.

• ANATOMIST: 39, married, Ph.D. Specialty in neuroanatomy. Competent in human gross anatomy and histology. Two years completed in medical school. At present associate professor in medical school. Nine years teaching experience in medical school. Have had full charge of course in medical neuroanatomy. Research primarily in neurocytology and gross anatomy. Major advisor on graduate work was very eminent neuroanatomist. Minor work was in neuropathology. Prefer to remain in teaching and research in a medical school. Address: A-132.

• INTERNIST-GASTROENTEROLOGIST: M.D. Mayo and university training, total over five years, including gastroscopy and proctoscopy. Also interested in hematology and peripheral vascular diseases. Certified by American Board of Internal Medicine. Now instructor, department medicine. Family. Desires change in location. Address: A-133.

• ANATOMIST: Ph.D., 27, married. Desires permanent teaching-research position in medical school. Thoroughly trained in all phases of anatomy, especially neuroanatomy with minor field in pathology. Four years' teaching experience in gross anatomy and neuroanatomy. Extensive research experience including publications. Member Sigma Xi. References. Address: A-134.

• THORACIC AND GENERAL SURGEON, 48, Certified by board in surgery and in thoracic surgery. Member of numerous national societies and author of many scientific publications. Has served as chief of the surgical service in large teaching hospitals. Long experience in teaching and training programs; some in research. Desires teaching appointment in class A medical school, preferably full time. Primary interest in thoracic surgery. Address A-135.

• INTERNIST—HEMATOLOGY: 37, board certified, FACP. Available for interesting and challenging opportunity (academic, clinical or other.) Experience qualifies for teaching and/or research (basic and clinical,) organization and management, medical editing and public relations, direction of graduate students and resident training program, and clinical activities. In 10th year large midwestern medical college, currently associate professor. Address: A-136.

• BIOCHEMIST: Ph.D., presently holds teaching and research position in a medical school. Desires position with teaching and research responsibilities. Address: A-137.

• PATHOLOGIST: Associate professor, 38. Six years experience in teaching general pathology and neuropathology. Desires full or part time teaching appointment which, in particular, will provide time and stenographic facilities for preparation of textbook contracted to publish, and other publications. Address: A-138.

• PUBLIC RELATIONS DIRECTOR: 20 years experience in handling a variety of business and college public relations, specialist in interpreting scientific and technical topics, interested in connection with medical school or medical foundation where his energies and talents might be concentrated to better advantage. Address: A-139.

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